

DESERT SOUTHWEST REGION 10-YEAR PLAN ACTIVE PROJECT UPDATES



Figure 1 – Gila-Wellton Mohawk 161-kV Rebuild under Construction

QUARTERLY CUSTOMER MEETING: APRIL 3, 2019

DESERT SOUTHWEST REGIONAL OFFICE

615 S. 43RD AVE

PHOENIX, AZ



Western Area Power Administration

POWERING THE ENERGY FRONTIER



Table of Contents

1. MEETING AGENDA	3
2. TABLE OF ACRONYMS	4
3. TABLE OF FIGURES	5
4. ACTIVE CONSTRUCTION - ADDITIONAL FUNDING.....	6
4.1 Crossman Peak New Microwave Facility.....	6
4.2 Gila Substation 161-KV Rebuild.....	11
5. ACTIVE CONSTRUCTION	14
5.1 Gila-Wellton Mohawk 161-kV Rebuild (I-8 Crossing)	14
5.2 Gila-Dome Tap 161-kV Rebuild	17
5.3 Kofa-Dome Tap 161-kV Rebuild	20
5.4 Coolidge-Valley Farms 115-kV Rebuild.....	22
5.5 Liberty Series Capacitor Bank Replacement.....	25
5.6 Bouse-Kofa 161-kV Rebuild	27
6. ACTIVE SEED FUNDED PROJECTS	32
6.1 Bouse Upgrade Project.....	32
7. ACTIVE CONSTRUCTION – WORK FOR OTHERS.....	38
7.1 Liberty Rudd Bay Upgrade.....	38
7.2 Townsite Solar	40
7.3 Mohave Wind Farm	41
7.4 Southline.....	42
8. PIVOT STRATEGY 2019	45
8.1 What Is The 10-Year Plan Pivot?	45
8.2 Why Do We Need to Pivot?.....	45
8.3 Customer Benefits	45
8.4 AOA Study Status: 2023 New Construction Starts	46
9. 10-YEAR PLAN LOOK AHEAD	47





1. MEETING AGENDA

Wednesday, April 3, 2019 | 10 a.m. to 1 p.m. Mountain Standard Time (Arizona)

WEBEX VIDEO CONFERENCING AND CALL-IN NUMBER:

- To access the WebEx please click the below link and follow the on-screen prompts
CLICK HERE to join the meeting
- Meeting number:** 902 175 612
Meeting password: HCUAhXjj
- To join the conference call, please dial (415)-527-5035. When prompted, enter conference code number 902 175 612 and then enter #.

OBJECTIVES (JPA Attachment No. 1, Section 1.1.1)

- Provide updates on costs, budgets, and schedules for active construction projects
- Provide updates on the development of refined scope, schedule and cost estimates of partially funded (Seed) Construction Projects.
- Review recommended alternatives for the previous year's completed AOA studies (FY23 starts)
- Solicit customer input on DSW active projects and AOA study updates

AGENDA:

	<u>Presenter</u>	<u>Time Allotment</u>
1. Welcome	Jack Murray	
2. Introductions	Tony Guinane	5 min
3. Active Construction Projects - Additional Funds		
a. Crossman Peak Microwave Facility	Mike Garcia	10 min
b. Gila Substation 161-kV Rebuild	Tony Gagajewski	10 min
4. Active Construction Projects		
a. Gila-Wellton Mohawk I-8 Crossing Rebuild	Tony Gagajewski	5 min
b. Gila-Dome Tap 161-kV Rebuild	Tony Gagajewski	5 min
c. Kofa-Dome Tap 161-kV Rebuild	Tony Gagajewski	5 min
d. Coolidge-Valley Farms 115-kV Rebuild	Roger Wright	5 min
e. Liberty Series Capacitor Bank	Roger Wright	5 min
f. Bouse-Kofa 161-kV Rebuild	Nicholas Pepenelli	5 min
5. Active Seed Projects		
a. Bouse Upgrade Project	Nicholas Pepenelli	15 min
6. <u>10 MINUTE BREAK</u>		
7. Active Construction Projects – Work for Others		
a. Liberty Rudd	Roger Wright	3 min
b. Townsite Solar	Mike Garcia	3 min
c. Mohave Wind Farm	Mike Garcia	3 min
d. Southline	Matt Schmehl	15 min
8. Pivot Strategy 2019	Cole Shinaman	5 min
9. Quarterly Meeting Schedule	Tony Guinane	5 min
a. June 19, 2019 - Draft 10-Year Plan Discussion		
b. October 30, 2019 - Final 10-Year Plan Presentation		
c. December 10, 2019 - Prepayment Vote Meeting		
10. Vegetation Management	Steve Narolski	30 min





2. TABLE OF ACRONYMS

ACSR.....	ALUMINUM CONDUCTOR STEEL REINFORCED
ACSS.....	ALUMINUM CONDUCTOR STEEL SUPPORTED
APS.....	ARIZONA PUBLIC SERVICE
AOA.....	ANALYSIS OF ALTERNATIVES
BES.....	BULK ELECTRIC SYSTEM
BOR.....	BUREAU OF RECLAMATION
BSE.....	BOUSE SUBSTATION
CAP.....	CENTRAL ARIZONA PROJECT
CPC.....	CAPITAL PLANNING COMMITTEE
CTC.....	CUSTOMER TECHNICAL COMMITTEE
CX.....	CATEGORICAL EXCLUSION
CIP.....	CRITICAL INFRASTRUCTURE PROTECTION
DOE.....	DEPARTMENT OF ENERGY
DSW.....	DESERT SOUTHWEST REGION
EA.....	ENVIRONMENTAL ASSESSMENT
E&OC.....	ENGINEERING & OPERATING COMMITTEE
EVM.....	EARNED VALUE MANAGEMENT
GFE.....	GOVERNMENT FURNISHED EQUIPMENT
IDC.....	INTEREST DURING CONSTRUCTION
IDIQ.....	INDEFINITE DELIVERY/INDEFINITE QUANTITY
JPA.....	JOINT PLANNING AGREEMENT
KCMIL.....	THOUSANDS CIRCULAR MILS
KV.....	THOUSAND VOLTS
LiDAR.....	LIGHT DETECTION AND RANGING
MDCC.....	MAINTENANCE DESIGN CONSTRUCTION COMMITTEE
MVA.....	MEGA VOLT AMP
NEPA.....	NATIONAL ENVIRONMENTAL POLICY ACT
NERC.....	NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION
NESC.....	NATIONAL ELECTRICAL SAFETY CODE
NHPA.....	NATIONAL HISTORIC PRESERVATION ACT
NRHP.....	NATIONAL REGISTER OF HISTORIC PLACES
O&M.....	OPERATIONS AND MAINTENANCE
OPGW.....	OPTICAL OVERHEAD GROUND WIRE
OGW.....	OVERHEAD GROUND WIRE
PCB.....	POLYCHLORINATED BIPHENYL
P-DP.....	PARKER-DAVIS PROJECT
USDA.....	UNITED STATES DEPARTMENT OF AGRICULTURE
RFP.....	REQUEST FOR PROPOSAL
ROM.....	ROUGH ORDER OF MAGNITUDE COST ESTIMATE
ROW.....	RIGHT-OF-WAY
SCE.....	SOUTHERN CALIFORNIA EDISON
TEP.....	TUCSON ELECTRIC POWER
TYP.....	10-YEAR PLAN
WAPA.....	WESTERN AREA POWER ADMINISTRATION





3. TABLE OF FIGURES

Figure 1 – Gila-Wellton Mohawk 161-kV Rebuild under Construction	1
Figure 2 - Location of New Crossman Peak Microwave Site (Yellow Dot).....	7
Figure 3 - Access to New Crossman Peak Microwave Facility	8
Figure 4 - Aerial View of Gila 161-kV Substation Along Canal Before Start of Project	12
Figure 5 - Earthwork Along the Access Road to Gila Substation	12
Figure 6 - Gila-Wellton Mohawk 161-kV Rebuild Under construction	15
Figure 7 - Aerial View of Gila-Dome Tap 161-kV Terrain	18
Figure 8 - Aerial View of Gila-Dome Tap 161-kV through Agricultural lands	18
Figure 9 - Existing Kofa-Dome Tap 161-kV Transmission Line	21
Figure 10 – Aerial View of Coolidge-Valley Farms 115-kV Transmission Line	23
Figure 11 - Aerial View of Liberty Substation	26
Figure 12 Bouse-Kofa Existing Wood H-Frame Structure, February 2018.....	30
Figure 13 Bouse-Kofa Conceptual Project Phasing Map.....	31
Figure 14 - Current Configuration.....	33
Figure 15 - Proposed Bouse Upgrade Configuration	33
Figure 16 - Existing South of Parker System Configuration	34
Figure 17 - Proposed Bouse Upgrade Configuration South of Parker	34
Figure 18 - Wilderness Areas Discovered During Seed Funding Phase	36
Figure 19 - Southline Technical Line Diagram.....	43
Figure 20 - Installing Post Insulators at Liberty Substation	39
Figure 21 - Drilling Foundations at Liberty Substation	39

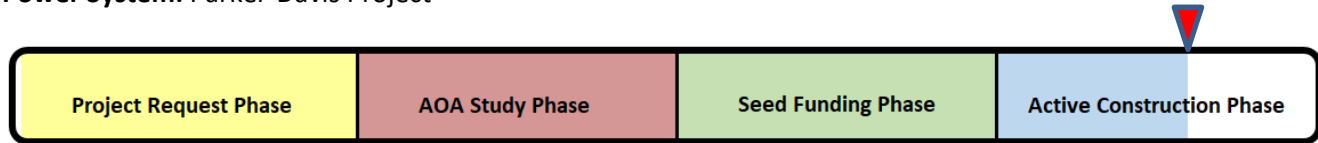




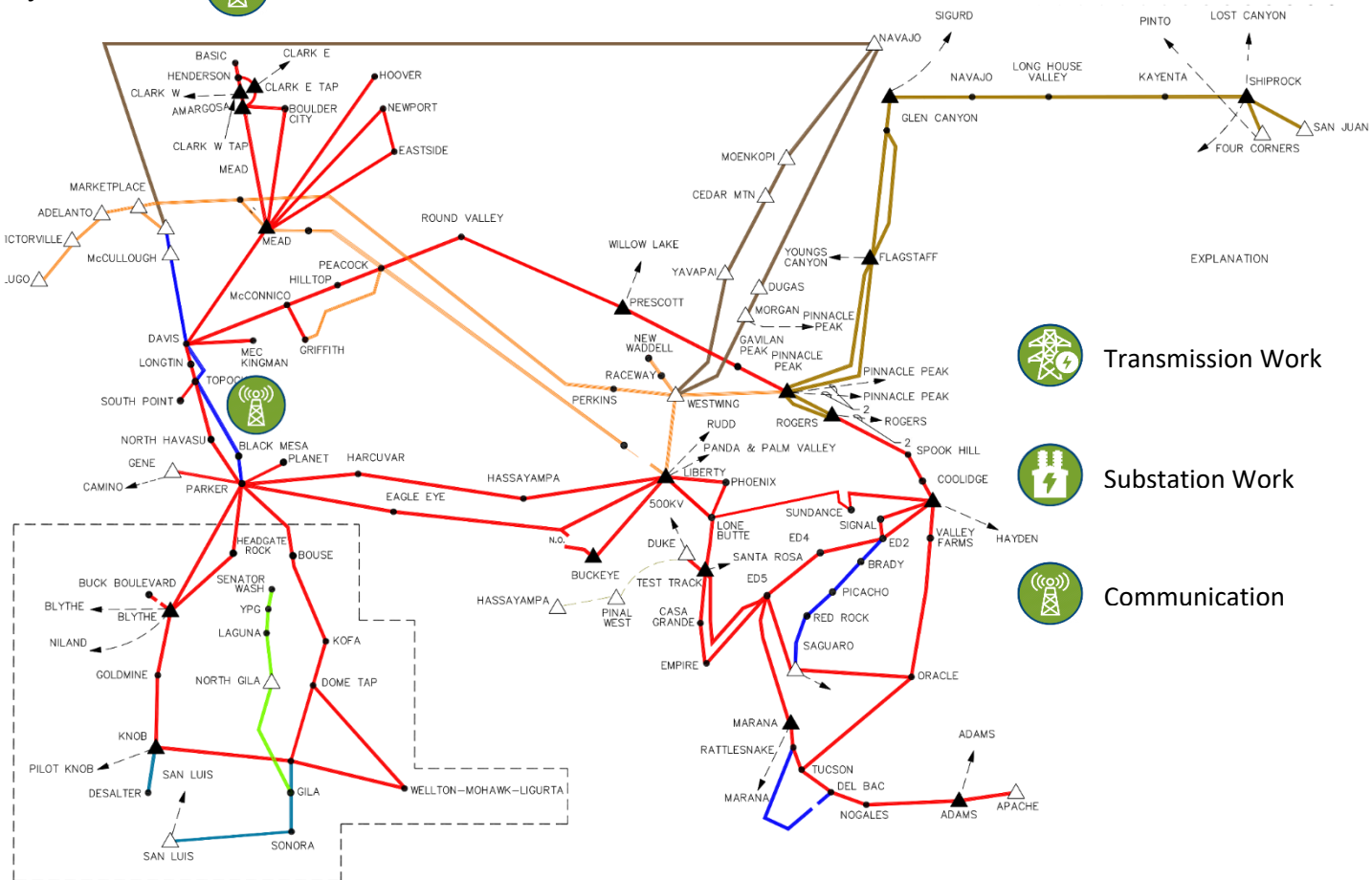
4. ACTIVE CONSTRUCTION - ADDITIONAL FUNDING

4.1 Crossman Peak New Microwave Facility

Power System: Parker-Davis Project



Project Location =



Project Background

WAPA's microwave system operates within a specific frequency band (2GHz) regulated by the Federal Communications Commission (FCC). Legislation was presented in 2010 that reallocates this frequency band to a higher bandwidth range (7GHz). As a result, radios along WAPA's microwave system will require replacement to models that operate within the higher frequency range in order to accommodate the FCC mandate.

In anticipation of migrating to the higher frequency, WAPA analyzed its microwave system and identified a 70 mile stretch between the Metal Mountain microwave site and the Topock Substation as non-complying to reliability standards. This communication path no longer meets the required





reliability standards due to obstructions interfering with the path coupled with moving to the new frequency bandwidth. This compelled WAPA to look for a new site that would provide the required reliability. A new path to bypass the source of interruption in the higher frequency band was chosen from Christmas Tree Pass, to Crossman Peak, to Metal Mountain.



Figure 2 - Location of New Crossman Peak Microwave Site (Yellow Dot)

Extensive effort went into finding an existing site that would be suitable and provide the reliability needed. The current interim sites do not meet the required WAPA and NERC standards for a reliable and secure communication. No site other than Crossman Peak was successfully identified during the communication siting study that was performed by WAPA.

Additionally, the microwave system is the primary means of communication for all of the transmission lines between Mead Substation and Phoenix, encompassing five generation sites and 22 substations. This new site will ensure WAPA's ability to meet all relevant operational and security standards, as well as meeting WAPA's own communication needs.





The scope of this project includes the construction of a WAPA owned microwave communication site on Crossman Peak, adjacent to an existing non-WAPA communication site. Crossman Peak is located east of Lake Havasu City. The new site will support the primary microwave communications between WAPA's existing Christmas Tree Pass and Metal Mountain communication sites.

Project Scope Highlights

- Construct a new microwave tower and 12'x24' communication building
- Requires land acquisition, access easement, & a new distribution line for primary power to the site
- Install back generator with fuel tanks and an equipment shelter
- Provides primary microwave communications between Phoenix and Hoover via WAPA's existing Christmas Tree Pass and Metal Mountain communication sites



Figure 3 - Access to New Crossman Peak Microwave Facility

Project Updates

Project is currently on hold for environmental assessment with approximately 75% design complete. The Fort Mohave Tribe has requested a Government-to-Government consultation between BLM and WAPA management. No meeting to date or future meeting has been scheduled to discuss re-scoping the distribution line route that will provide primary power to the site.





A land owner agreement with American Tower is still outstanding due to legal obstacles. WAPA's environmental group has not given any indication of settlement. At this time the land acquisition process is at a standstill until additional issues are resolved. As a result this project was formally placed on hold in December of 2018.

A recent assessment of the project scope and recent land acquisition developments have resulted in an identified need for additional prepayment funding. Current estimates show a need for an additional \$3,775,000 to complete the project. This is largely due to the additional cost to construct the distribution line which doubled from the original estimate. A breakdown of those budgets that require additional funds are listed below.

COST CATEGORY	ORIGINAL BUDGET	NEW BUDGET	ADDITIONAL FUNDS REQUESTED
Environmental	\$ 332,500	\$ 750,000	\$ 417,500
Distribution Line	\$ 2,200,000	\$ 4,616,466	\$ 2,416,466
Design	\$ 350,000	\$ 657,763	\$ 307,763
Land Acquisition	\$ 350,000	\$ 633,271	\$ 283,271
Building Construction	\$ 600,000	\$ 950,000	\$ 350,000
TOTAL	\$ 3,832,500	\$ 7,607,500	\$ 3,775,000

Cost Factors

- Environmental Assessment Cost Factors:
 - Original Environmental Budget : \$332,500
 - Cost to Date G0400 : \$339,699
 - Proposed budget : \$750,000
 - Factor: Fort Mohave Tribal monitors costs \$150,000.00 (3 months @ \$50k) included in total cost above.
- Unisource Overhead Distribution Line Costs:
 - Original distribution line budget: \$2,200,000
 - Design costs : \$200,000
 - Proposed distribution line budget: \$4,616,466
- Design costs:
 - Original design budget: \$350,000
 - Actual design budget: \$657,763
- Lands Appraisal and Land Cost:
 - Original appraisal budget : \$250,000
 - Actual appraisal cost : \$450,000
 - Original right-of-way budget: \$100,000
 - Actual right-of-way costs : \$183,271
 - No land owner agreement or offer letter sent due to EA completion.
 - No AZ State permit application due to EA completion.
- Building Construction
 - Original building construction budget: \$600,000.00
 - Proposed building construction budget: \$950,000.00
 - Factors: Use of helicopter and extremely restricted terrain.
 - Building design in four to six segments due to shipping weight of helicopter.





Project Financial Summary

FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENT 2017	BUDGET ADJUSTMENT 2018	BUDGET ADJUSTMENT 2019	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS	ADDITIONAL FUNDS REQUIRED	PROPOSED NEW BUDGET
Prepayment	\$ 4,525,000	\$ -	\$ -	\$ -	\$ 4,525,000	\$ 1,373,156	\$ 3,151,844	\$ 3,775,000	\$ 8,300,000
Appropriations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 4,525,000	\$ -	\$ -	\$ -	\$ 4,525,000	\$ 1,373,156	\$ 3,151,844	\$ 3,775,000	\$ 8,300,000

*Cost = All Executions, Obligations, & Commitments Through 2/28/19

Project Milestones

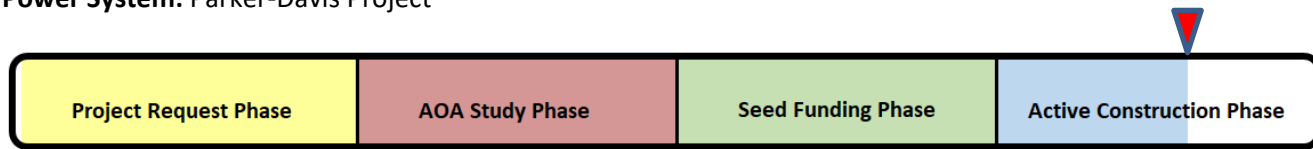
PROJECT MILESTONE	STATUS	DATE
Seed Funded	N/A	N/A
Approved for Funding	Completed	Q4 2016
Design Completed	Completed	TBD
Construction Mobilization	Projected	TBD
In-Service / Energization	Projected	TBD
Financial Closeout	Projected	TBD



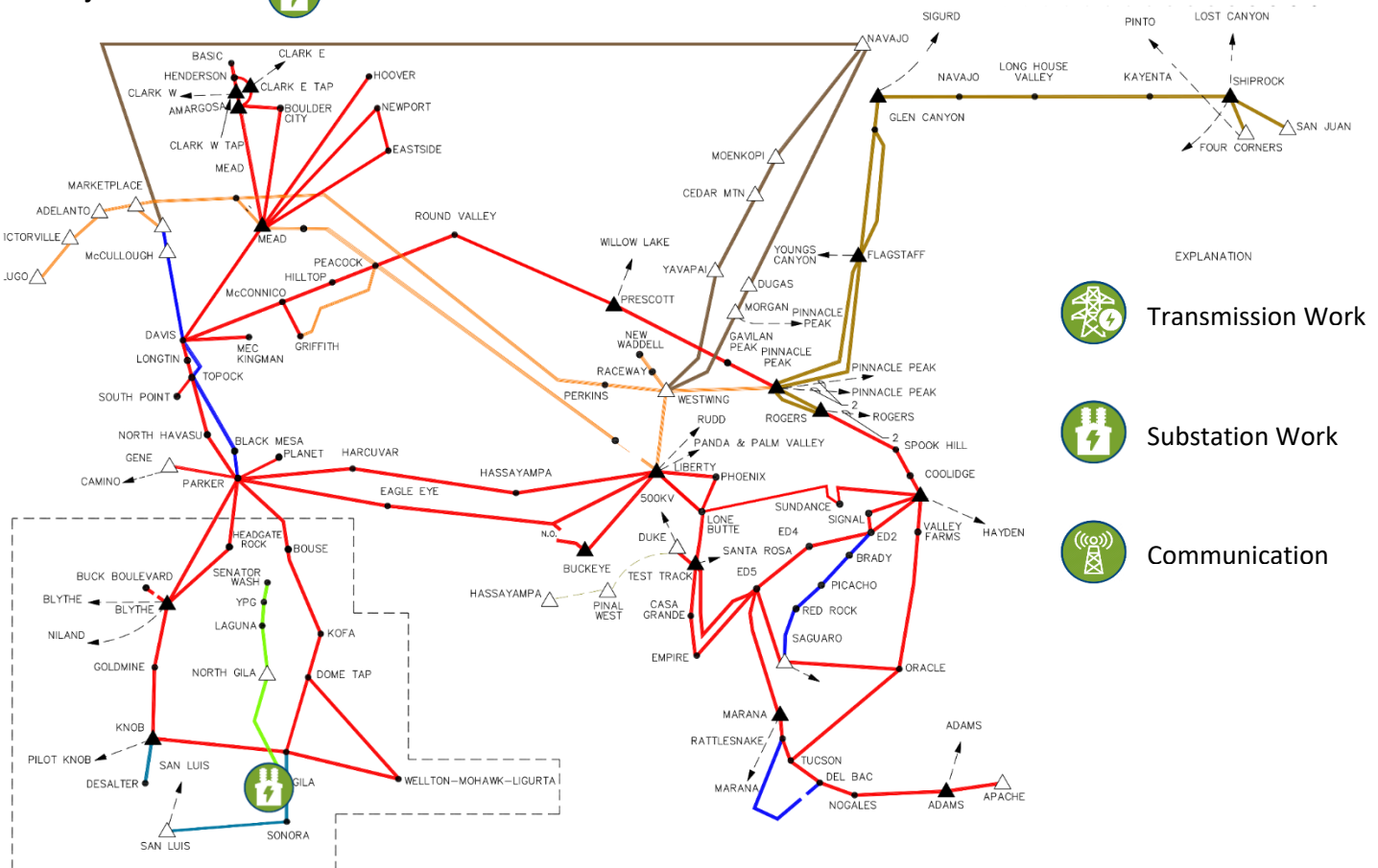


4.2 Gila Substation 161-KV Rebuild

Power System: Parker-Davis Project



Project Location =



Project Background

The Gila Substation (161-kV, 69-kV, 34.5-KV and 4.16-kV) was originally constructed in 1949. Due to the layout of the yard, there are safety risks to equipment and personnel. The lack of proper spacing and clearance distances forces WAPA to take outages in order to conduct routine maintenance work in its current configuration. The rebuild of the 161-kV yard to current standards will increase worker safety, lessen the possibility of equipment flashover, equipment failure, and eliminate the requirement for outages to conduct routine maintenance work.

The Gila Substation Rebuild Project was initiated in 2013 and since inception, numerous vital design changes were found to be necessary to ensure the reliability of the customer's needs. The new yard will be built to 230-kV standards, operated at 161-kV. The rebuild of the 161-kV substation will increase reliability by replacing aged components that have become unreliable and a detriment to the WAPA System.





In addition, a new control building will be constructed to accommodate all needs for the substation. In a separate project, the existing 161-kV yard will be demolished as part of a future project after the new 161-kV system is operational to create space for the future reconstruction of the 69-kV and 34.5-kV yards.

Project Scope Highlights

- Built to 230-kV standards, operated at 161-kV
- New control building will be constructed
- Existing 161-kV yard will be demolished once the new 161-kV system is operational to create space for the future reconstruction of the 69-kV and 34.5-kV yards



Figure 4 - Aerial View of Gila 161-kV Substation Along Canal Before Start of Project



Figure 5 - Earthwork Along the Access Road to Gila Substation





Project Updates

The bulk of the earthwork has been completed and most of the foundations have been finished. The control building is expected to be completed in July of this year, with the rest of construction continuing until June 2020. There have been several circumstances that now require additional funds to complete the project. The construction contract was awarded at just under \$10 million, \$2 million above the independent government estimate. Additional planning and earthwork was also necessary to prevent runoff from flowing into the canal adjacent to the Gila substation (see figure 4). Lastly, there has been an increase in the cost of steel which impacted all equipment costs. In total, an additional \$ 3,296,183 will be required to complete the project.

Project Financial Summary

FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENT 2015	BUDGET ADJUSTMENT 2016	BUDGET ADJUSTMENT 2017	BUDGET ADJUSTMENT 2018	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS	ADDITIONAL FUNDS REQUIRED	PROPOSED NEW BUDGET
Prepayment	\$ 12,000,000	\$ -	\$ (1,075,597)	\$ 6,299,184	\$ (111,826)	\$ 17,111,761	\$ 17,123,475	\$ (11,714)	\$ 3,296,183	\$ 20,407,944
Appropriations	\$ -	\$ -	\$ 1,075,597	\$ 695,316	\$ 111,826	\$ 1,882,739	\$ 1,882,739	\$ -	\$ -	\$ 1,882,739
TOTAL	\$ 12,000,000	\$ -	\$ -	\$ 6,994,500	\$ -	\$ 18,994,500	\$ 19,006,214	\$ (11,714)	\$ 3,296,183	\$ 22,290,683

**Cost = All Executions, Obligations, & Commitments Through 2/28/19*

Project Milestones

PROJECT MILESTONE	STATUS	DATE
Seed Funded	N/A	N/A
Approved for Funding	Completed	Q4 2014
Design Completed	Completed	Q2 2018
Construction Mobilization	Completed	Q4 2018
In-Service / Energization	Projected	Q2 2020
Financial Closeout	Projected	Q4 2020

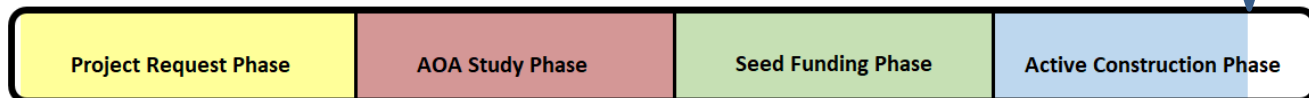




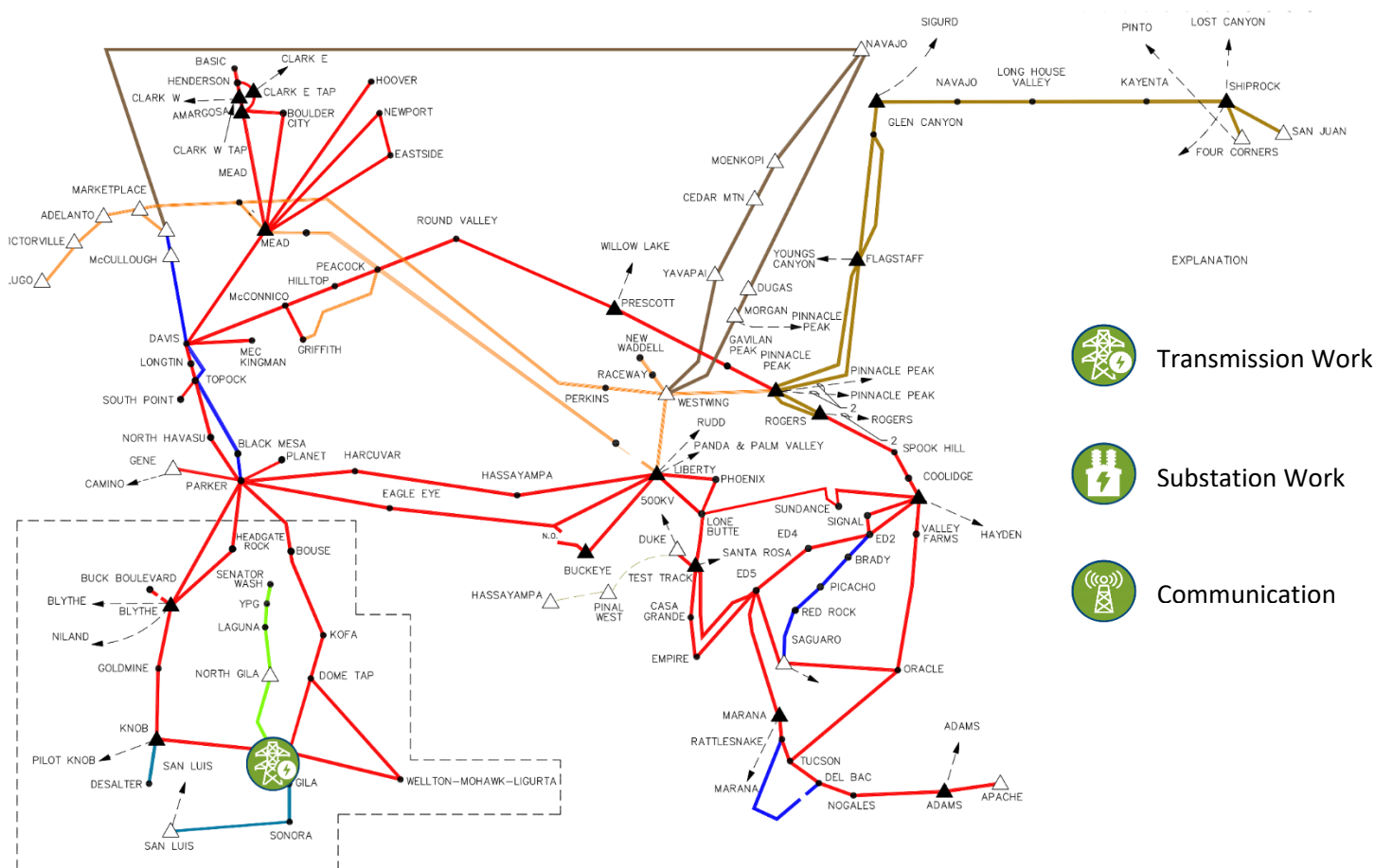
5. ACTIVE CONSTRUCTION

5.1 Gila-Wellton Mohawk 161-kV Rebuild (I-8 Crossing)

Power System: Parker-Davis Project



Project Location =



Project Background

The Gila-Wellton Mohawk (GLA-WML) 161-kV transmission line rebuild project was initiated in late 2016 as part of the Seed Funding Pilot Program. WAPA kicked off the project and began design work to rebuild 2.8 miles of the original wood structures along the GLA-WML transmission line. The line was erected in 1956 and the structures are well beyond the recommended lifespan and rehabilitation efforts are no longer viable. Many of the poles display visual symptoms of advanced external shell rot, along with weathering and large cracks.





During 2017, a majority of the GLA-WML structures were replaced by WAPA maintenance personnel; however, the stretch of transmission line that traverses rugged, mountainous terrain was not replaced. This was due in part because many of the structures have no existing access roads and those that do, require significant roadwork for vehicular travel. In conjunction with the rebuild effort, WAPA was to reestablish access roads where economically feasible to reduce the potential for helicopter only access. In addition, overhead optical ground wire would be installed on the GLA-WML transmission line.



Figure 6 - Gila-Wellton Mohawk 161-kV Rebuild Under construction



Project Scope Highlights

- Rebuild 2.8 miles of single circuit 161-kV transmission line through Telegraph Pass (mountainous terrain)
- Replace original wood structures with steel mono-poles
- Install OPGW for communication
- Replace all insulators and hardware

Project Updates

Although WAPA is new to the use of micro-pile foundations, their installation went very smoothly thanks to a well-written specification and design package. Drilling the direct-embed foundations proved to be challenging, but the project progressed as planned and slightly ahead of schedule. It is expected that the project will be completed ahead of schedule and within budget.

Project Financial Summary

FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENT 2018	BUDGET ADJUSTMENT 2019	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS	ADDITIONAL FUNDS REQUIRED
Prepayment	\$ 7,247,137	\$ -	\$ -	\$ 7,247,137	\$ 6,766,034	\$ 481,103	\$ -
Appropriations	\$ 273,517	\$ -	\$ -	\$ 273,517	\$ 273,517	\$ -	\$ -
TOTAL	\$ 7,520,654	\$ -	\$ -	\$ 7,520,654	\$ 7,039,551	\$ 481,103	\$ -
<i>*Cost = All Executions, Obligations, & Commitments Through 2/28/19</i>							

Project Milestones

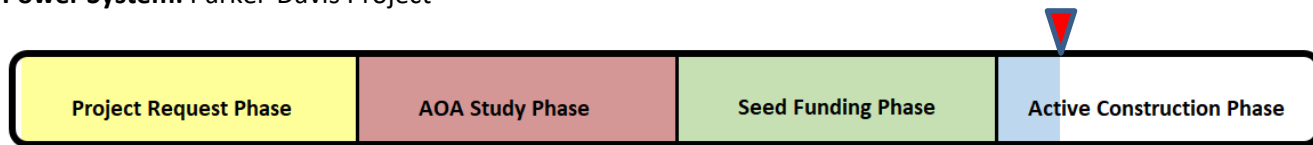
PROJECT MILESTONE	STATUS	DATE
Seed Funded	Completed	Q4 2016
Approved for Funding	Completed	Q4 2017
Design Completed	Completed	Q1 2018
Construction Mobilization	Completed	Q3 2018
In-Service / Energization	Projected	Q2 2019
Financial Closeout	Projected	Q4 2019



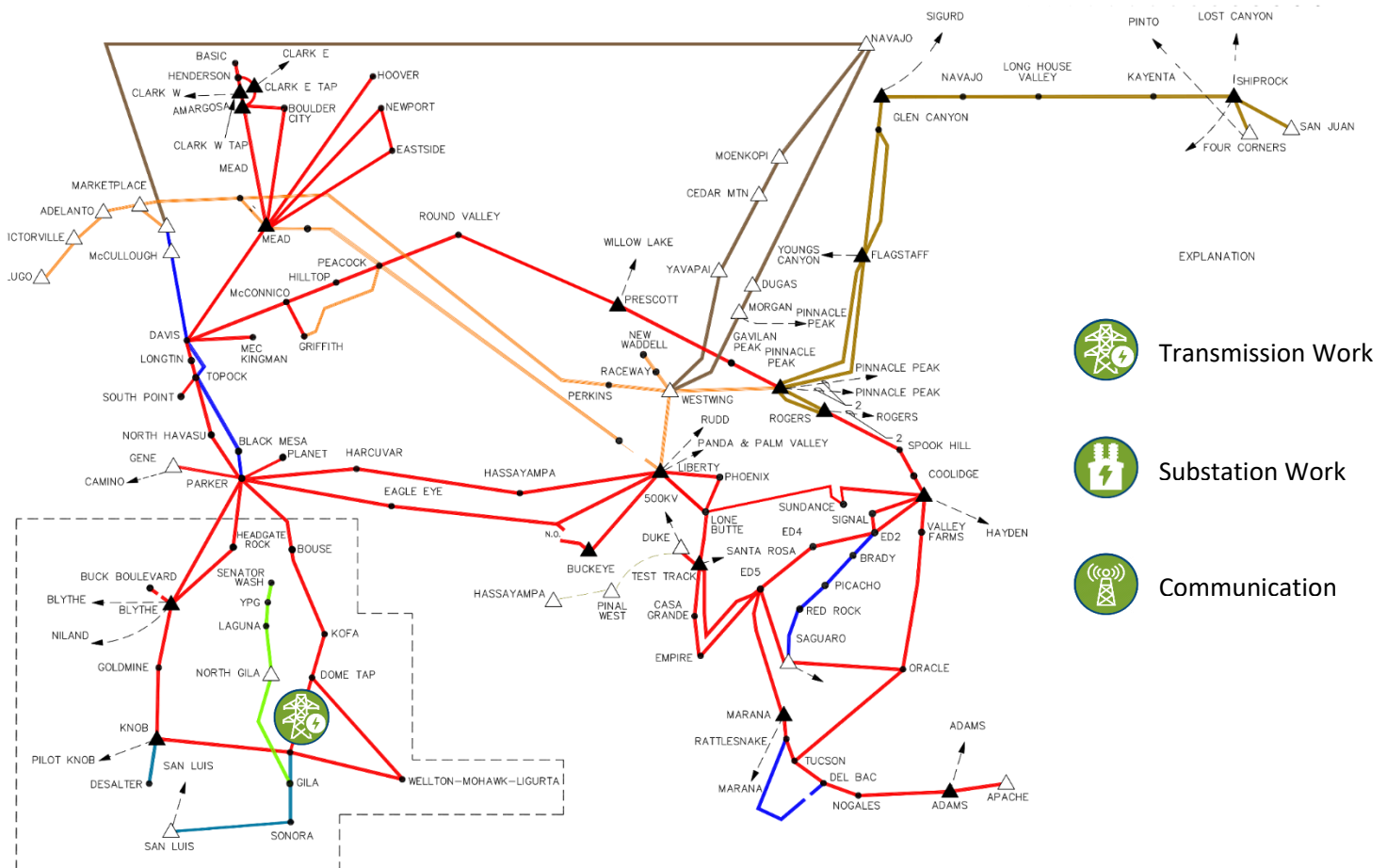


5.2 Gila-Dome Tap 161-kV Rebuild

Power System: Parker-Davis Project



Project Location =



Project Background

Gila (GLA) to Dome Tap (DME) is a single circuit, 7.6 mile, 161-kV transmission line segment of the overall Parker-Gila 161-kV line built in 1943. The line runs through agricultural, residential, and commercial property as well as hills and flat low desert terrain. The northern line section crosses Highway 95, the Union Pacific Railroad, and the Wellton Mohawk Canal. Originally constructed with wood H-frame structures, maintenance activities have replaced all but 16 of the structures with light-duty steel. Ten NESC/NERC phase-to-ground clearance violations have been identified along the 300-KCMIL hollow core copper conductor.





Figure 7 - Aerial View of Gila-Dome Tap 161-kV Terrain



Figure 8 - Aerial View of Gila-Dome Tap 161-kV through Agricultural lands



Project Scope Highlights

- Replace 7.6 miles of 300-KCMIL hollow core copper conductors with 336.4-KCMIL ACSS conductors
- Install light-duty steel H-frame structures, replacing the remaining 16 wood structures on the line
- Three Light-duty steel structures will be replaced with new taller structures to rectify NESC/NERC phase-to-ground clearance issues
- Replace one steel OGW in-kind
- Upgrade one steel OGW to OPGW to improve communications
- Replace all insulators and hardware
- Clear ROW access roads and pads
- Replace two take-off structures inside Dome-Tap substation

Project Updates

WAPA completed the design work in March of this year. A construction contract solicitation will start in April. During the last year, WAPA continued to work towards completion of all pre-construction activities which included an environmental review which completed in the fall 2018. Lands and realty activities will continue into July of 2019. Construction is expected to begin as planned in October of this year and continue through April 2020.

Project Financial Summary

FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENT 2019	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS	ADDITIONAL FUNDS REQUIRED
Prepayment	\$ 7,130,000	\$ -	\$ 7,130,000	\$ 255,094	\$ 6,874,906	\$ -
Appropriations	\$ 500,000	\$ -	\$ 500,000	\$ 236,211	\$ 263,789	\$ -
TOTAL	\$ 7,630,000	\$ -	\$ 7,630,000	\$ 491,305	\$ 7,138,695	\$ -
<i>*Cost = All Executions, Obligations, & Commitments Through 2/28/19</i>						

Project Milestones

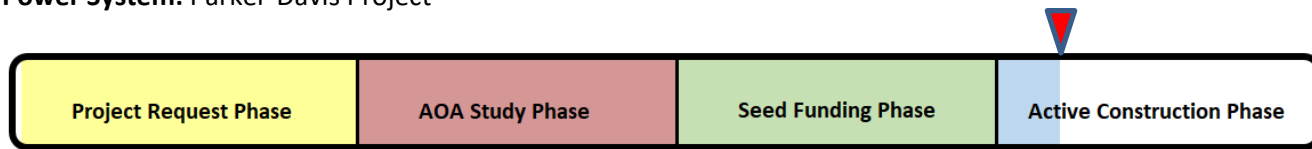
PROJECT MILESTONE	STATUS	DATE
Seed Funded	Completed	Q4 2017
Approved for Funding	Completed	Q4 2018
Design Completed	Completed	Q1 2019
Construction Mobilization	Projected	Q4 2019
In-Service / Energization	Projected	Q2 2020
Financial Closeout	Projected	Q4 2020



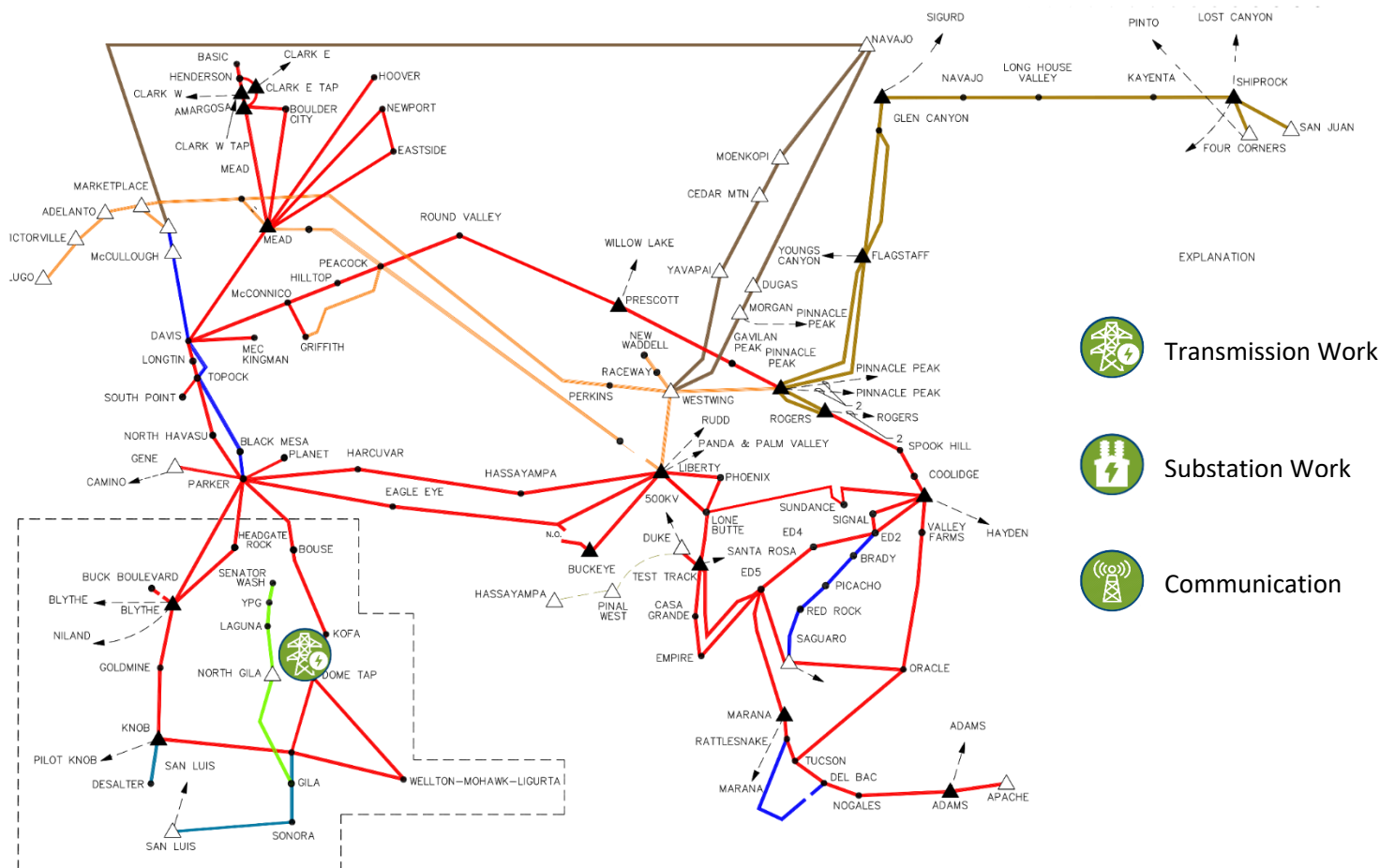


5.3 Kofa-Dome Tap 161-kV Rebuild

Power System: Parker-Davis Project



Project Location = 



Project Background

Kofa (KOF) to Dome Tap (DME) is a single-circuit, 7.3-mile, 161-kV transmission line segment along the Parker-Gila 161-kV line built in 1943. The KOF-DME Transmission Line is located in western Arizona running south from the Kofa substation to Dome Tap. The line was originally constructed with 300-KCMIL hollow-core-copper conductor. Most of the wood H-Frame structures have been replaced with light-duty steel H-Frame structures, and only seven wood structures remain in service.

WAPA will replace existing copper conductor with 336.4-KCMIL ACSS conductor, replace one steel overhead ground wire (OGW) with an optical overhead ground wire (OPGW), and install light-duty steel H-frame structures to replace the seven wood structures remaining in the line segment. WAPA will also install new light-duty steel H-frame steel structures as needed to correct NESC/NERC phase-to-ground clearance issues not corrected by stringing new ACSS conductor. Lastly, WAPA will repair and improve access roads as needed.





Figure 9 - Existing Kofa-Dome Tap 161-kV Transmission Line

Project Scope Highlights

- Replace 7.3 miles of 300-KCMIL copper conductor with 336.4-KCMIL ACSS conductor
- Replace remaining wood pole structures with light-duty steel structures
- Replace one steel OGW in-kind
- Upgrade one steel OGW to OPGW to improve communications
- Replace all insulators and hardware
- Correct all NESC/NERC phase-to-ground clearance issues
- Replace both structures inside Dome-Tap substation
- Clear ROW access roads and pads as required for construction and maintenance

Project Updates

WAPA will be starting the design of the transmission line in April 2019. Environmental coordination work is in progress.

Project Financial Summary

FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENT 2019	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS	ADDITIONAL FUNDS REQUIRED
Prepayment	\$ 4,830,000	\$ -	\$ 4,830,000	\$ -	\$ 4,830,000	\$ -
Appropriations	\$ 500,000	\$ -	\$ 500,000	\$ 224,958	\$ 275,042	\$ -
TOTAL	\$ 5,330,000	\$ -	\$ 5,330,000	\$ 224,958	\$ 5,105,042	\$ -
<i>*Cost = All Executions, Obligations, & Commitments Through 2/28/19</i>						

Project Milestones

PROJECT MILESTONE	STATUS	DATE
Seed Funded	Completed	Q4 2017
Approved for Funding	Completed	Q4 2018
Design Completed	Projected	Q4 2019
Construction Mobilization	Projected	Q4 2020
In-Service / Energization	Projected	Q4 2021
Financial Closeout	Projected	Q2 2022



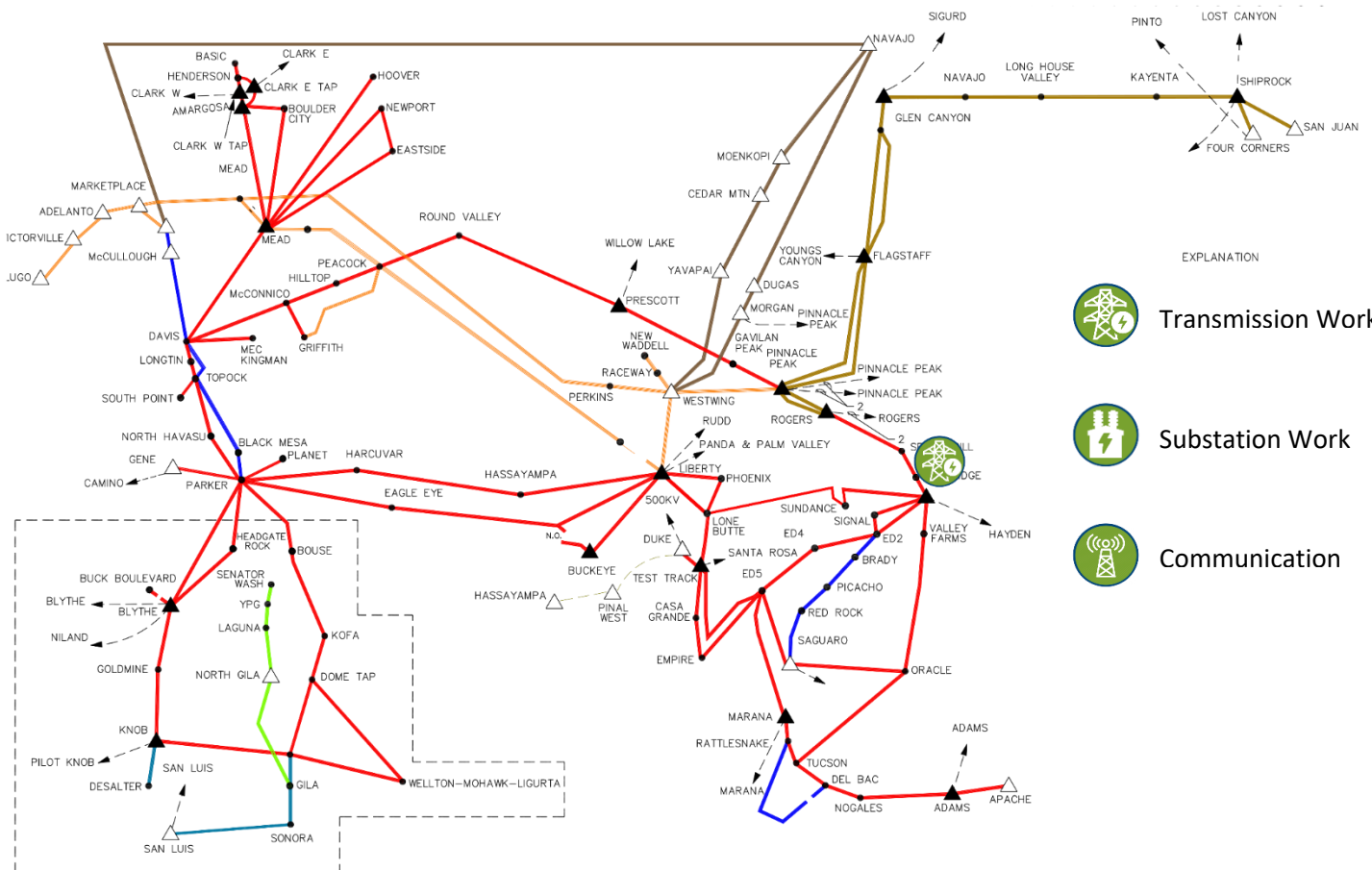


5.4 Coolidge-Valley Farms 115-kV Rebuild

Power System: Parker-Davis Project



Project Location =



Project Background

Coolidge to Valley Farms (COL-VAF) is a single circuit, 6.1-mile, 115-kV transmission line segment of the Coolidge to Oracle (COL-ORA) 45-mile transmission line. The existing structures are mainly wood H-frame structures with a 4/0 copper conductor and two overhead ground wires (OGW). The rebuild effort will include the replacement in-kind of existing deteriorated wood pole structures. Replacement of the new wood poles will be located in the same location as the existing poles to avoid environmental and access concerns.

The existing copper conductor rated at 88 MVA will be upgraded to Cardinal 954-KCMIL aluminum conductor steel reinforced (ACSR) conductor rated at approximately 180-MVA with the addition of one new overhead optical ground wire (OPGW) and one standard OGW.





Figure 10 – Aerial View of Coolidge-Valley Farms 115-kV Transmission Line

The scope also includes minor substation work at the terminal ends of the line to upgrade or replace equipment required to achieve the increased capacity on the conductor. This includes but is not limited to jumper replacements. Work at each substation also includes communication upgrades in the control rooms to land and integrate the new OPGW.

Project Scope Highlights

- Replace 6.1 miles of 4/0 copper conductor with 954-KCMIL ACSR conductor
- Replace all insulators and hardware
- Replace one steel OGW in-kind
- Upgrade one steel OGW to OPGW to improve communications
- Replace wood structures in-kind where replacements are required or to support the new conductor
- Upgrade deteriorated cross arms assemblies with glue-laminated (glulam) cross-arms
- Install new steel angle, 4" x 3 1/2" x 5/16" x 14'-6" long (pole-to-pole ties) between H-frame structures to support new OPGW and OGW
- Clear ROW access roads and pads as required for construction and maintenance
- Correct all NESC/NERC clearance violations

Project Updates

During the final phase of design in late 2018 and after a constructability review, WAPA added a month to the construction schedule to accommodate coordination of several transmission line crossings and one rail road crossing. However, the project remains on schedule with design recently completed in March of this year and a construction contract solicitation is in progress.





The construction contract will include all materials and WAPA does not intend to procure any government furnished equipment. WAPA estimates that a construction contract award will be made in June of this year. Currently a preliminary outage has been scheduled for December 2, 2019 to May 30, 2020 for the field work to be performed.

Project Financial Summary

FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENT 2019	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS	ADDITIONAL FUNDS REQUIRED
Prepayment	\$ 2,305,000	\$ -	\$ 2,305,000	\$ 207,844	\$ 2,097,156	\$ -
Appropriations	\$ 1,045,000	\$ -	\$ 1,045,000	\$ -	\$ 1,045,000	\$ -
TOTAL	\$ 3,350,000	\$ -	\$ 3,350,000	\$ 207,844	\$ 3,142,156	\$ -

**Cost = All Executions, Obligations, & Commitments Through 2/28/19*

Project Milestones

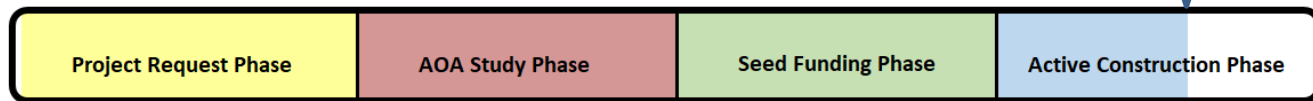
PROJECT MILESTONE	STATUS	DATE
Seed Funded	Completed	Q1 2018
Approved for Funding	Completed	Q4 2018
Design Completed	Completed	Q1 2019
Construction Mobilization	Projected	Q4 2019
In-Service / Energization	Projected	Q2 2020
Financial Closeout	Projected	Q4 2020



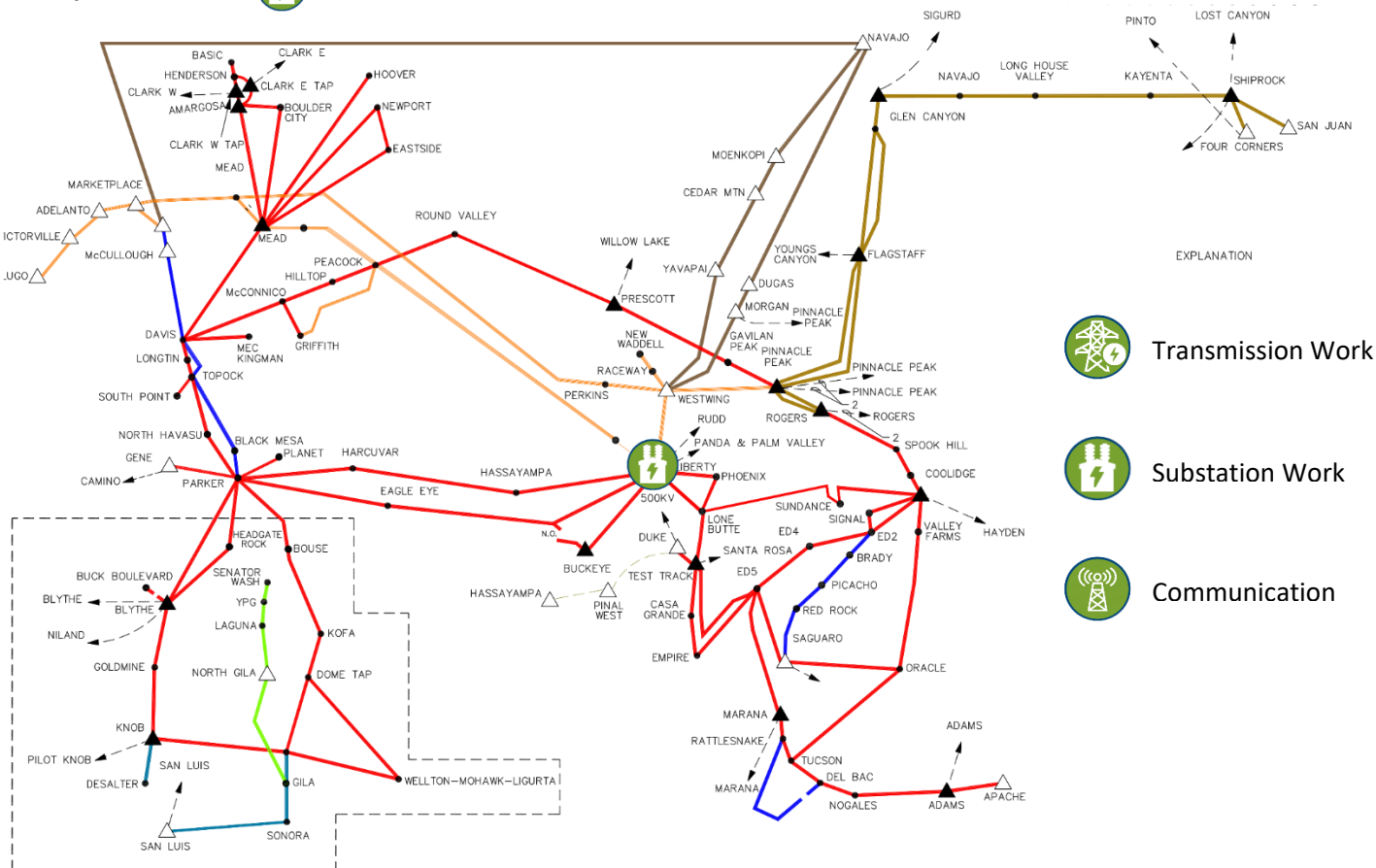


5.5 Liberty Series Capacitor Bank Replacement

Power System: Intertie Project



Project Location =



Project Background

The Liberty 345-kV Cap Bank replacement project was initiated in late 2016. This project will construct and install a new 345-kV series capacitor bank to replace the existing, in-service, Westinghouse Capacitor bank (PU1A). This unit is rated at 345-kV, 110-MVar, and 850 Amps (508 MVA) and was originally commissioned in 1969 and has degraded significantly. The series capacitor bank is made up of: capacitor cans, a control system, air compressor, air dryer, air piping system, inserting circuit breaker, relaying, surge arrestors and reactors. Capacitor Bank purchase contract award was made in August 2017 and required a one year lead time for delivery. Appropriated funds were allocated to DSW for this project which in turn was utilized to purchase the approximately \$3.7 million capacitor bank equipment.

Project Scope Highlights

- Replace existing, in service, PU1A 345-kV series capacitor bank
- New series capacitor bank will be installed adjacent to the existing unit
- The old capacitor bank unit will be removed and foundations left in place
- Testing of the new capacitor bank was successfully completed in 2018





Figure 11 - Aerial View of Liberty Substation

Project Updates

On June 20, 2018 WAPA awarded a Construction Contract for \$2,356,696. A protest was filed at the Government Accountability Office (GAO) on the award. That protest was upheld and the Construction Contract was awarded on September 25, 2018 for \$2,231,997. As a result, the project schedule was delayed by approximately eight months due to the available outage windows.

In funding the construction contract, \$1,650,000 in appropriations was identified and allocated to the project. Because of a Maintenance issue with birds nesting and fowling the existing capacitor bank, WAPA has decided to remove the existing capacitor bank from the substation. This will not include removal of the existing foundations or excavation of the foundations in order to reduce the immediate environmental requirements involved in the ground disturbance required to remove the foundations. With this existing contract, small foundations will be added for the new capacitor bank to support four bird irritant dispensers to mitigate future issues with fouling of the new equipment.

Project Financial Summary

FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENT 2017	BUDGET ADJUSTMENT 2018	BUDGET ADJUSTMENT 2019	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS	ADDITIONAL FUNDS REQUIRED
Prepayment	\$ 10,372,000	\$ (3,776,632)	\$ (1,702,760)	\$ -	\$ 4,892,608	\$ 2,012,852	\$ 2,879,756	\$ -
Appropriations	\$ -	\$ 3,776,632	\$ 1,702,760	\$ -	\$ 5,479,392	\$ 5,479,392	\$ -	\$ -
TOTAL	\$ 10,372,000	\$ -	\$ -	\$ -	\$ 10,372,000	\$ 7,492,244	\$ 2,879,756	\$ -

*Cost = All Executions, Obligations, & Commitments Through 2/28/19

Project Milestones

PROJECT MILESTONE	STATUS	DATE
Seed Funded	N/A	N/A
Approved for Funding	Completed	Q4 2016
Design Completed	Completed	Q1 2018
Construction Mobilization	Projected	Q4 2018
In-Service / Energization	Projected	Q4 2019
Financial Closeout	Projected	Q2 2020



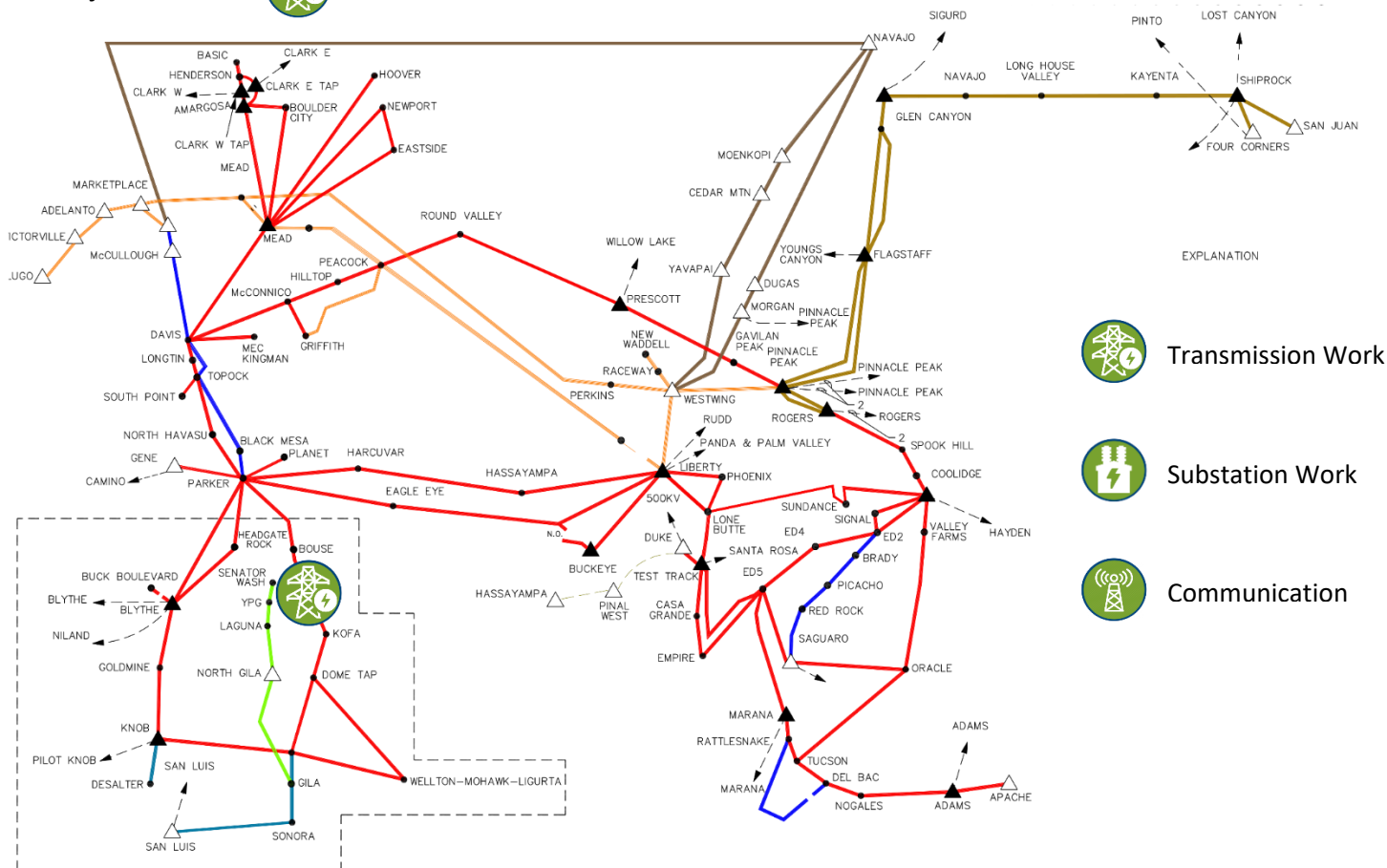


5.6 Bouse-Kofa 161-kV Rebuild

Power System: Parker-Davis Project



Project Location =



Project Background

The Bouse (BSE) to Kofa (KOF) 161-kV transmission line is a single circuit, 84.3 mile line segment of the overall Parker-Gila 161-kV Transmission Line originally built in 1943.

The BSE-KOF line is located in western Arizona running south from Bouse substation to Kofa substation. Bouse substation is located just north of the junction of AZ Highways 72 and 95 in La Paz county. Kofa substation is located approximately 16 miles northeast of the city of Yuma in Yuma County. The terrain along the line is mostly low desert with multiple wash crossings and low rises. Toward the south end of the transmission line the terrain becomes more mountainous across the Castle Dome Mountains near Dome Tap.

The line was originally 78.9 miles long, constructed with three 300-KCMIL hollow core copper conductors (Anaconda R178R2). Most of the wood H-Frame structures have been replaced with light-duty steel H-Frame structures, and only 82 wood structures remain.





In 2006 a portion of the line was rerouted around the town of Quartzsite. The reroute replaced 3.3 miles of the existing line through Quartzsite with 8.4 miles of three 954-KCMIL ACSR conductors supported on single circuit steel monopoles.

Conceptual Project Phasing

For the purposes of planning in advance of the final design, WAPA has split the total line segment budget in half to create place holders for each individual project phase. The budget estimate for each individual phase will be updated once the preliminary design is completed in the fall of 2020. The project phases will be staggered by one year to aid in optimal constructability around outage windows. As a result the completion of each project phase will also be staggered by one or more years such that the cumulative rate impact of the entire line segment is minimized.

Conceptual Phase-1 Scope

Design and construct 31.25 miles of 161-kV transmission line from structure 70-2 to Kofa Substation. Design includes replacing 43 wood structures, and selecting a new conductor that can be installed on existing and new light-duty steel H-Frame structures to eliminate NERC/NESC violations to the extent possible. It is anticipated some existing light-duty steel H-Frame structures will be replaced with taller structures. Preliminary design will analyze installing steel dead-end structures every 5 to 10 miles to prevent cascading failure.

Conceptual Phase-2 Scope

Design and construct 44.25-miles of 161-kV transmission line from Bouse Substation to structure 70-2. Design includes replacing 40 wood structures, and selecting a new conductor that can be installed on existing and new light-duty steel H-Frame structures to eliminate NERC/NESC violations to the extent possible. It is anticipated some existing light-duty steel H-Frame structures will be replaced with taller structures. Preliminary design will analyze installing steel dead-end structures every 5 to 10 miles to prevent cascading failure.

Conceptual Project Phase 1 & 2 Scope Highlights

- Install Optical Overhead Ground Wire (OPGW)
- Replace 75.6 miles of three 300-KCMIL Anaconda hollow core copper conductors with three 336.4-KCMIL Oriole ACSS conductors
- Replace one steel OGW with OPGW,
- Replace 82 existing wood structures with light-duty steel H-frame structures
- New light-duty steel H-frame steel structures will be installed as needed to correct clearance issues not corrected by stringing new ACSS conductor
- Access roads will be improved as needed to facilitate construction.

Project Updates

Project was fully funded with prepayments in December of 2018, with an official start date for design work in late 2019. WAPA has started preliminary lands and environmental scoping activities to determine the most economical and constructible phasing of the project.





Project Financial Summary

FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENT 2019	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS	ADDITIONAL FUNDS REQUIRED
Prepayment	\$ 26,520,000	\$ -	\$ 26,520,000	\$ 89,647	\$ 26,430,353	\$ -
Appropriations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 26,520,000	\$ -	\$ 26,520,000	\$ 89,647	\$ 26,430,353	\$ -
<i>*Cost = All Executions, Obligations, & Commitments Through 2/28/19</i>						

Project Milestones: Bouse-Kofa Phase 1

PROJECT MILESTONE	STATUS	DATE
Seed Funded	N/A	N/A
Approved for Funding	Completed	Q4 2018
Design Completed	Projected	Q1 2020
Construction Mobilization	Projected	Q2 2020
In-Service / Energization	Projected	Q2 2023
Financial Closeout	Projected	Q4 2023

Project Milestones: Bouse-Kofa Phase 2

PROJECT MILESTONE	STATUS	DATE
Seed Funded	N/A	N/A
Approved for Funding	Completed	Q4 2018
Design Completed	Projected	Q1 2020
Construction Mobilization	Projected	Q2 2021
In-Service / Energization	Projected	Q2 2024
Financial Closeout	Projected	Q4 2024





Figure 12 Bouse-Kofa Existing Wood H-Frame Structure, February 2018



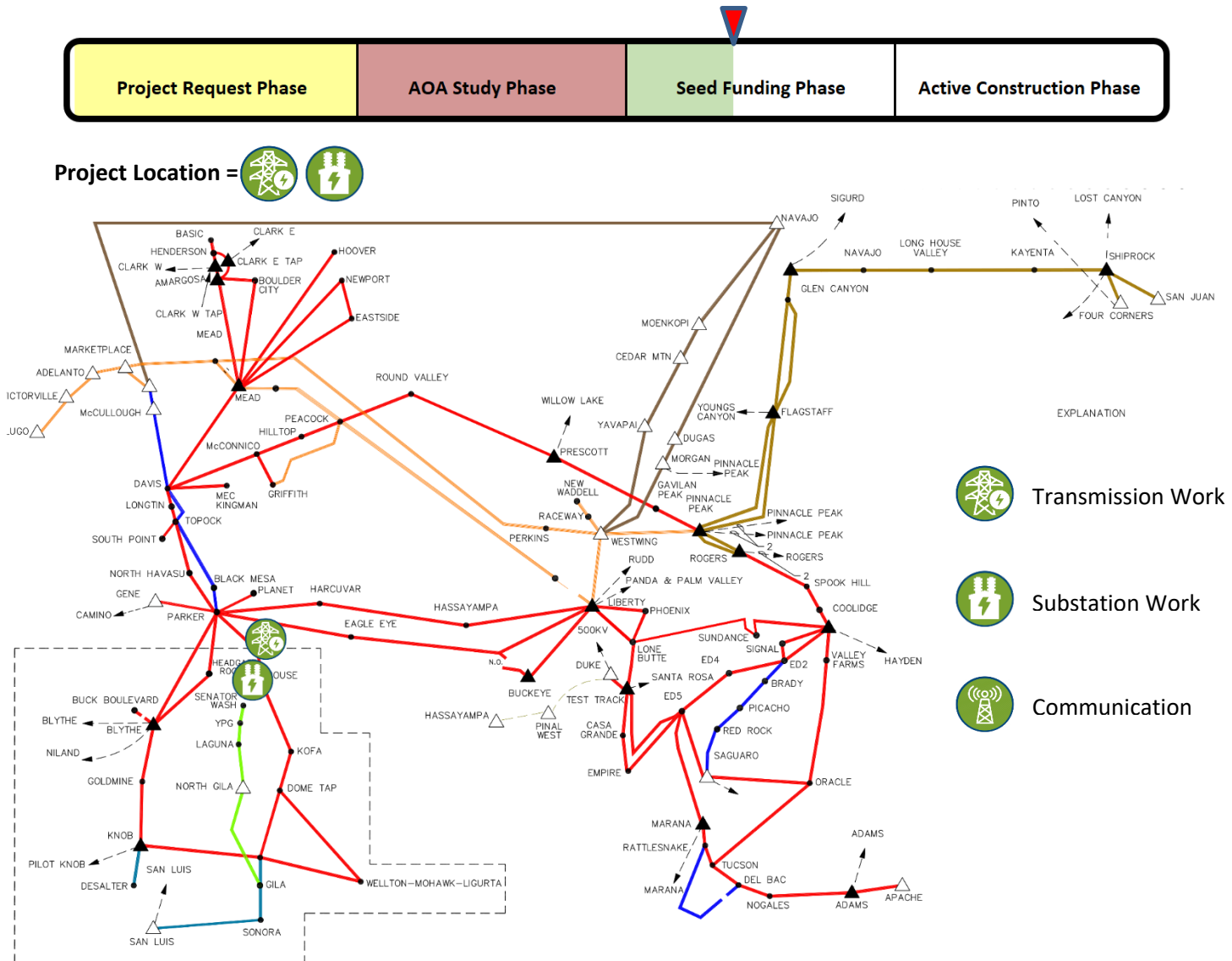
Figure 13 Bouse-Kofa Conceptual Project Phasing Map



6. ACTIVE SEED FUNDED PROJECTS

6.1 Bouse Upgrade Project

Power System: Parker-Davis Project



Project Background

Beginning in October 2018 WAPA initiated seed funding for the proposed Bouse Upgrade Project with appropriated funding budgeted at \$816,000. The objective was to begin preliminary design and generate a refined total project estimate for prepayment customer review and eventually consideration for full project funding in the December 2019 Prepayment Vote Meeting. In this section you will find a combination of details and information from the AOA study and in progress seed funding phase. The respective AOA study was completed in the summer of 2018 as part of the 10-Year Plan Pivot Strategy.



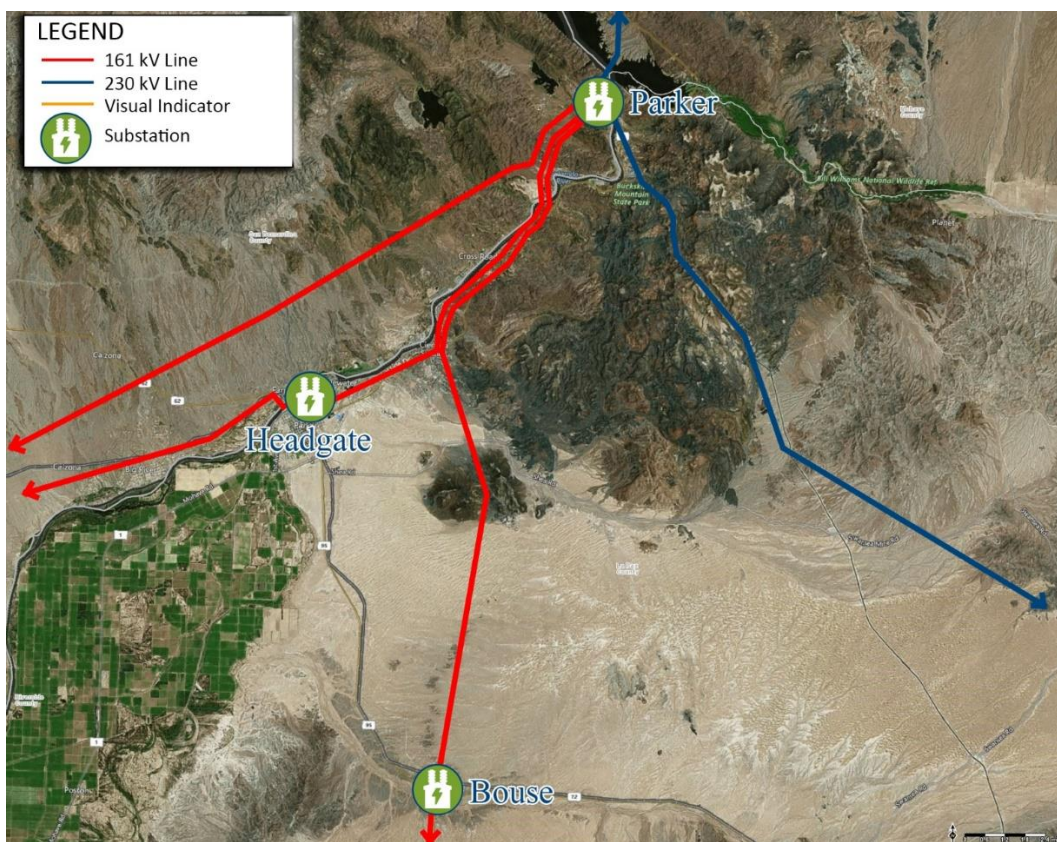


Figure 14 - Current Configuration

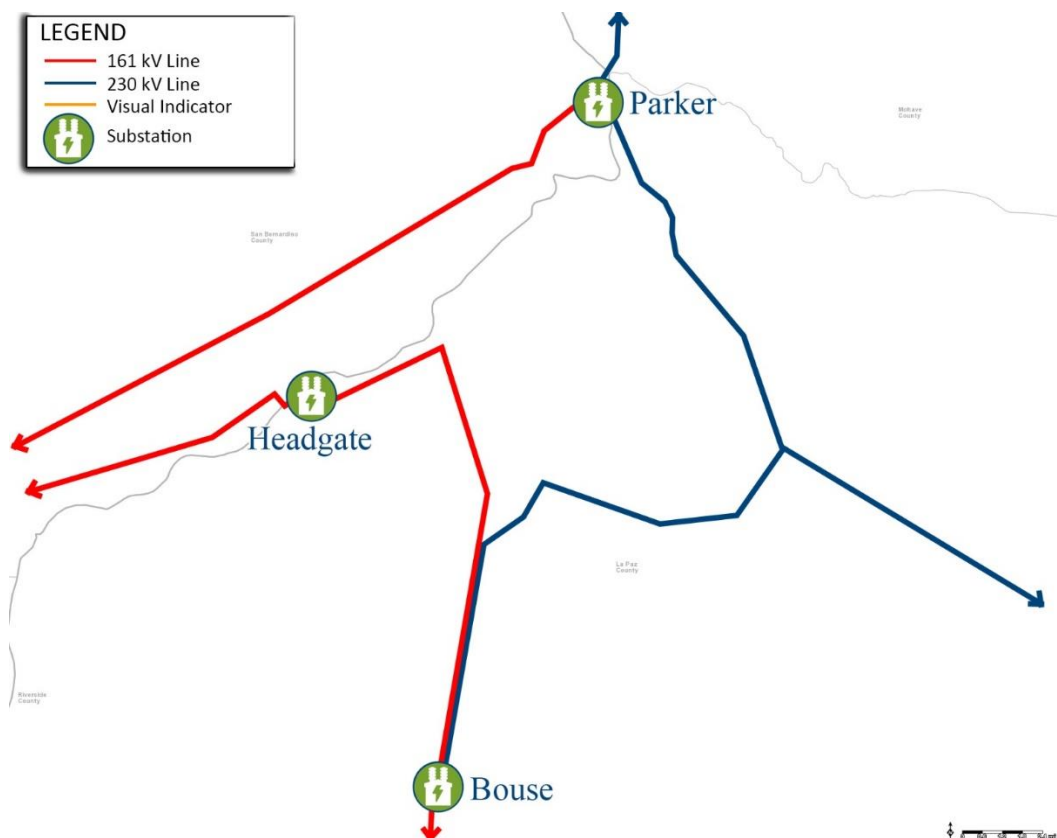


Figure 15 - Proposed Bouse Upgrade Configuration



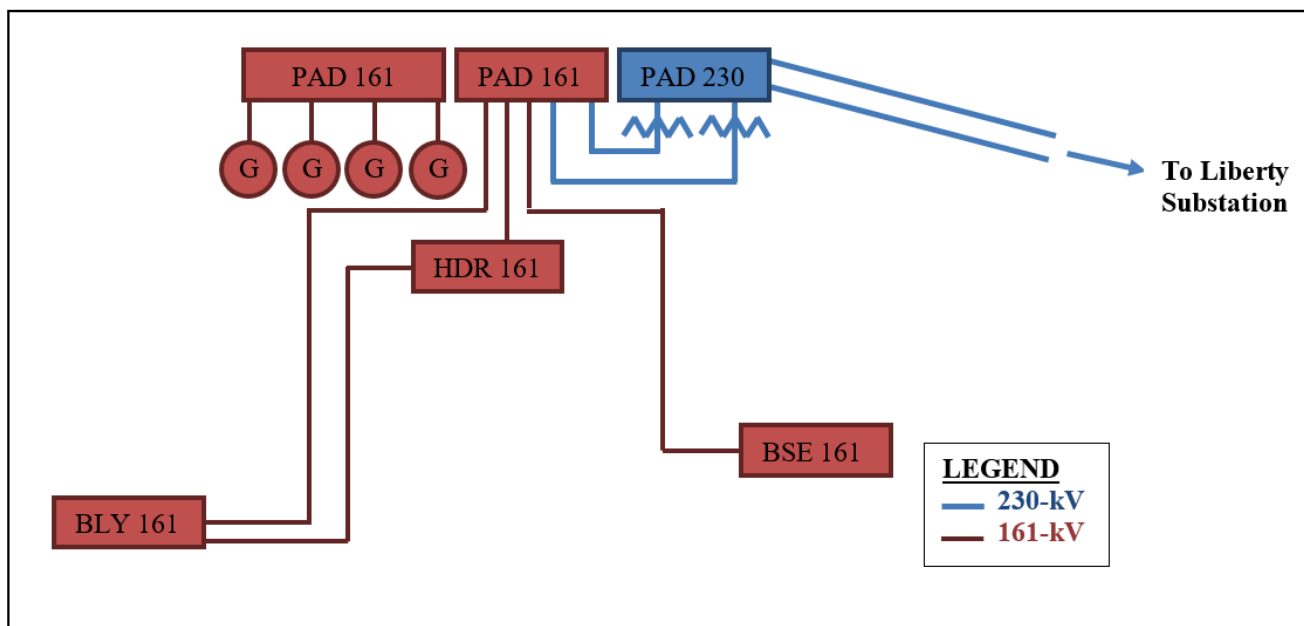


Figure 16 - Existing South of Parker System Configuration

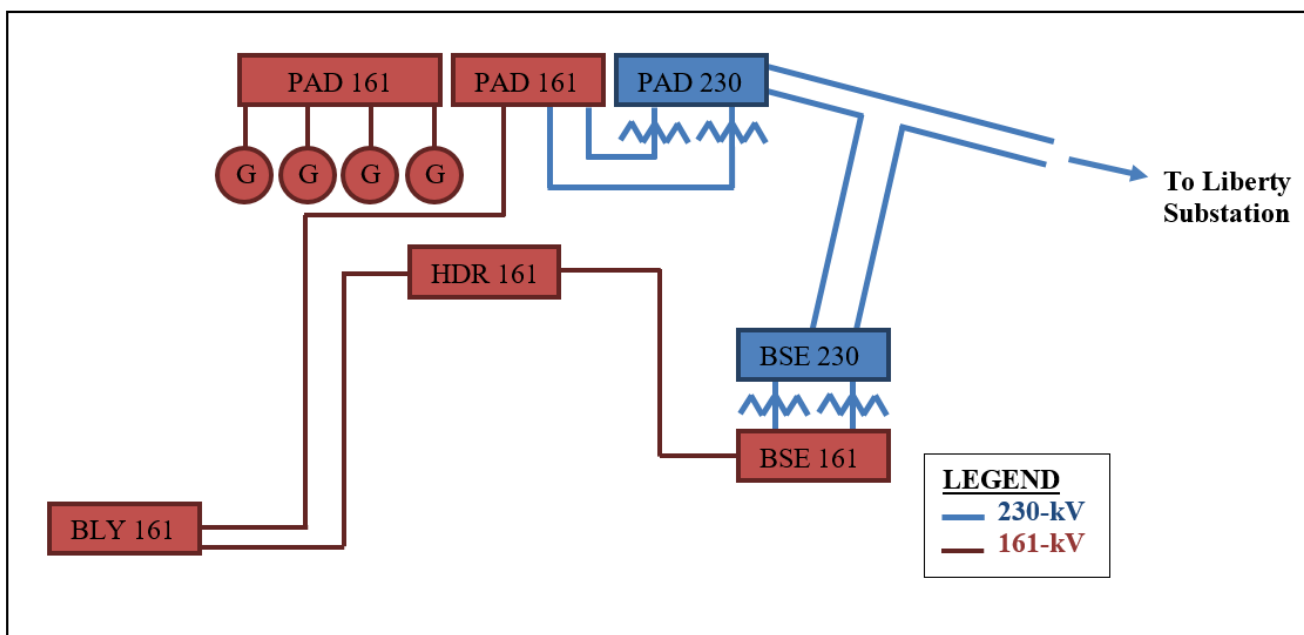


Figure 17 - Proposed Bouse Upgrade Configuration South of Parker





Project Scope Highlights

For planning purposes you will see the Bouse Upgrade Project as a single project throughout 10-Year Plan materials. However, it is WAPA's intent to phase this project into manageable smaller scopes of work that can be spread across multiple years to mitigate unnecessary upward rate pressure. The proposed phasing will be available at the Q3 2019 Customer Meeting.

STEP ONE: Build a new 230-kV transmission line

- Construct 15 miles of new double circuit 230-kV transmission line from Bouse substation to existing Parker-Liberty #2 transmission line
- Results in redirection of Parker-Liberty 230-kV line through Bouse Substation (See figure 18)
- Approximately 60 steel monopole structures
- Proposed 1272-KCMIL ACSR conductor or most economical to support load
- One overhead ground wire and one overhead optical ground wire.
- Construct across flat, unpopulated, BLM land

STEP TWO: Expand Bouse Substation

- Bouse substation rebuilt in 2012 to 230-kV standards, operated at 161-kV
- Three breaker ring-bus configuration
- Renovate into a 161-kV double-breaker-double-bus configuration
- Add two 230-kV bays in 4-breaker ring-bus configuration with two 230/161-kV transformers

STEP THREE: Connect Headgate Rock to Bouse utilizing a Jumper

- Install jumper between a new dead-end structure on the existing Parker-Headgate Rock 161-kV line with one new dead-end structure on the existing Parker-Bouse 161-kV line
- Connect Bouse to Headgate Rock using a new Jumper
- New Headgate Rock-Bouse 161-kV line is established

STEP FOUR: Remove 20 miles of transmission line

- Remove 10 of the 14 miles of single circuit line from Parker towards Headgate Rock.
- Remove 10 of the 22 miles of existing single circuit line from Parker towards Bouse.
- Relinquish existing ROW through Parker strip





Project Updates (Seed Funding)

WAPA has engaged both its environmental and lands groups to analyze the transmission line corridor and begin the Environmental Assessment (EA) process. In doing so, WAPA discovered several areas of avoidance as seen in the Figure 18 below as protected wilderness areas. This is an excellent example of why WAPA is now including Environmental in the AOA Study and seed funding process, as it allows the identification of environmental and lands constraints prior to entering construction that previously would have caused potential delays and additional costs.

To aid in the development of the design, WAPA is also currently pursuing LiDAR survey data along the proposed transmission line corridor along with geotechnical analysis. This data is crucial in further developing the project cost estimate for the purposes of seeking full project funding in the December 2019 Prepayment Vote meeting.

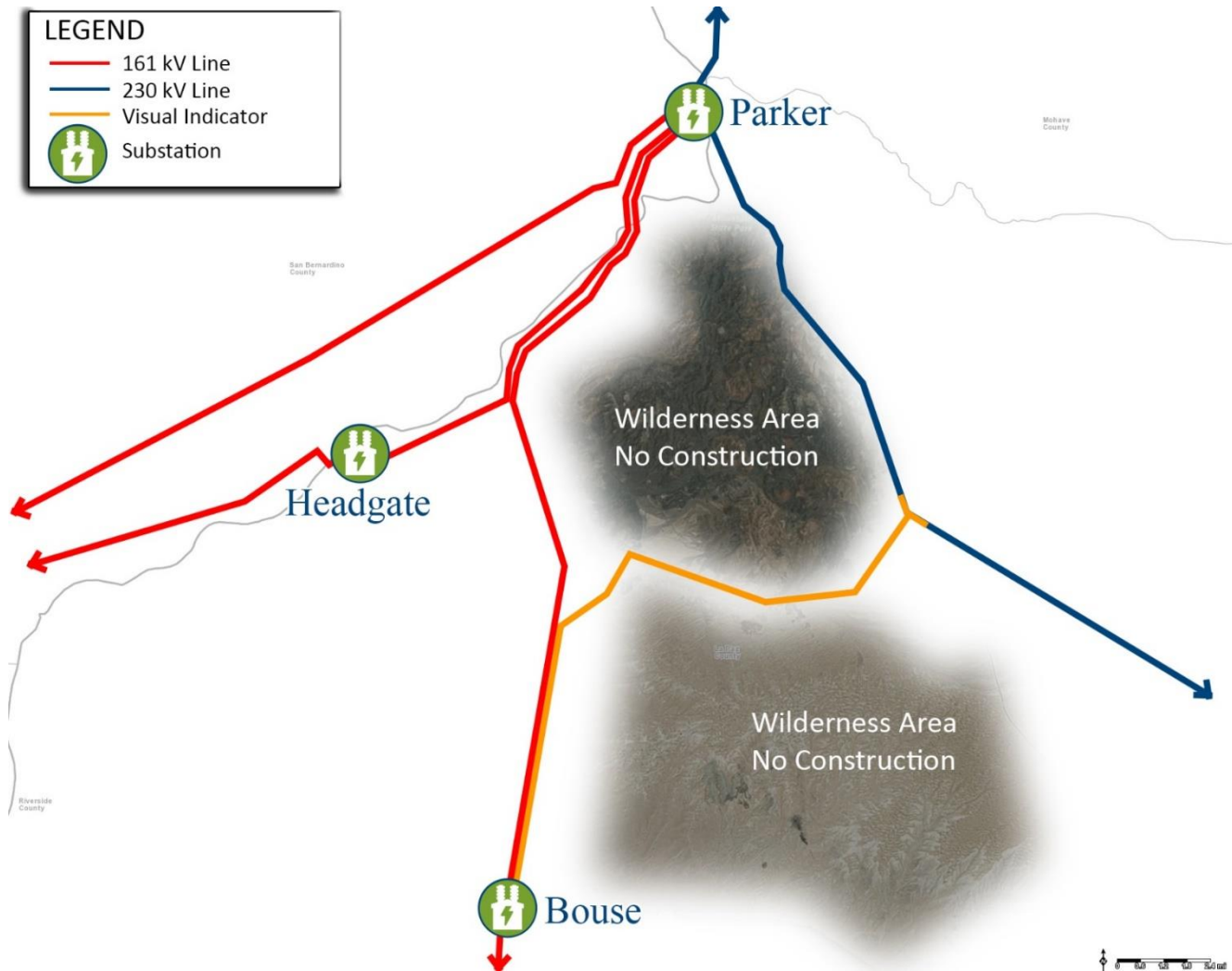


Figure 18 - Wilderness Areas Discovered During Seed Funding Phase



Project Financial Summary

FUNDING TYPE	ORIGINAL BUDGET	BUDGET ADJUSTMENT 2019	CURRENT BUDGET	COST TO DATE	REMAINING FUNDS	ADDITIONAL FUNDS REQUIRED
Prepayment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Appropriations	\$ 816,000	\$ -	\$ 816,000	\$ 186,455	\$ 629,545	\$ -
TOTAL	\$ 816,000	\$ -	\$ 816,000	\$ 186,455	\$ 629,545	\$ -
<i>*Cost = All Executions, Obligations, & Commitments Through 2/28/19</i>						

Conceptual Project Milestones

PROJECT MILESTONE	STATUS	DATE
Seed Funded	Completed	Q4 2018
Approved for Funding	Projected	Q4 2019
Design Completed	Projected	TBD
Construction Mobilization	Projected	TBD
In-Service / Energization	Projected	TBD
Financial Closeout	Projected	Q4 2025



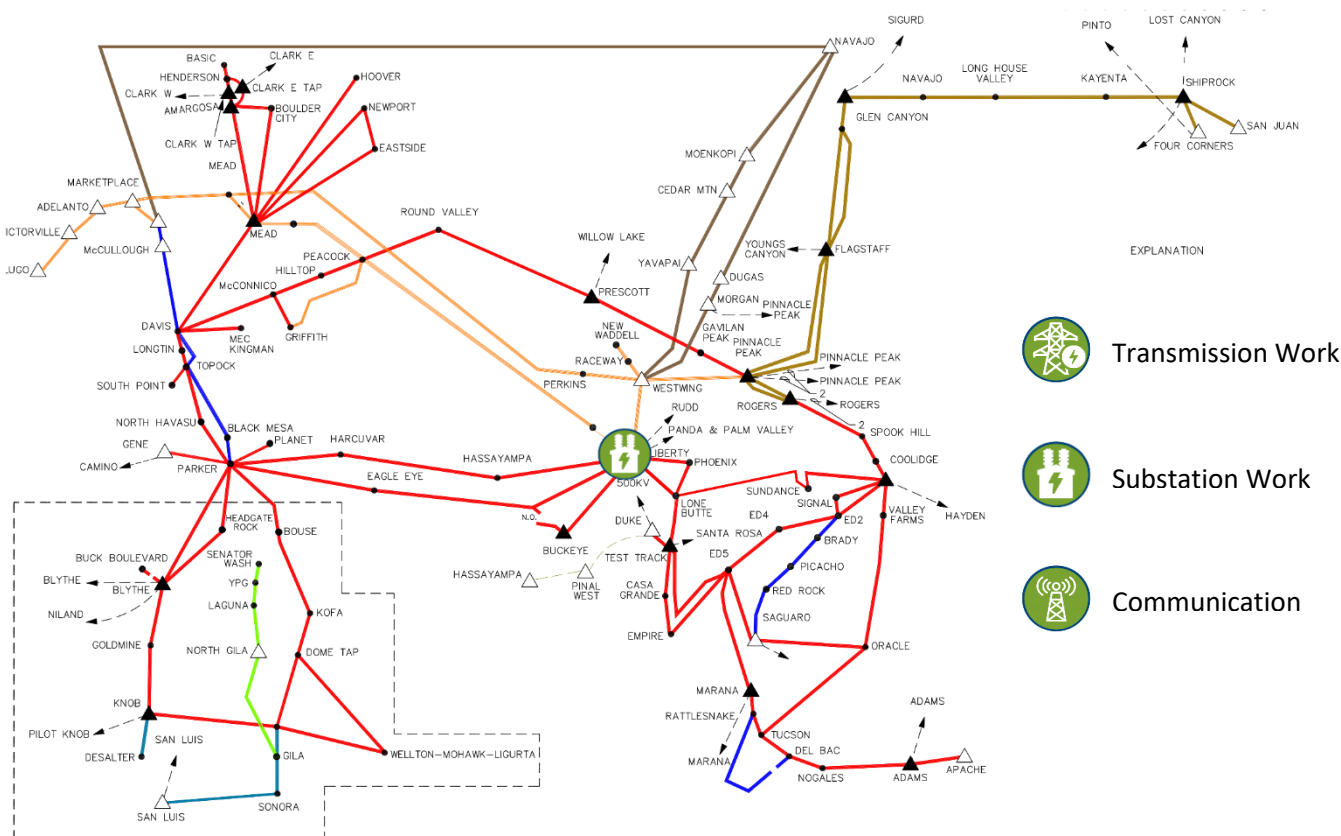


7. ACTIVE CONSTRUCTION – WORK FOR OTHERS

7.1 Liberty Rudd Bay Upgrade

Power System: Parker-Davis Project

Project Location = 



Project Description

The Liberty (LIB) Rudd (RUD) Bay Upgrade encompasses two bays to be reconciled, the 230-kV Transfer Bay and the Liberty Rudd Bay. Both bays require upgrades to jumpers, disconnecting switches, rigid bus ties, support structures, cable trenches and associated electrical equipment and material.

In addition, the Transfer bay (Breaker 1386) is being replaced by a Mitsubishi breaker that is presently located in the Parker Substation, and will require the breaker foundation to be replaced.

The 230-kV yard cable trench is currently near capacity. De-commissioned cables are being removed to accommodate new cables required for the upgrades.

As part of the project, WAPA is providing design, equipment procurement, construction contract procurement, construction supervision, and project management. WAPA was also involved with the National Environmental Policy Act (NEPA) compliance work.

This upgrade project will mitigate the LIB – RUD 230-kV line emergency thermal rating overload caused by either the common tower outage of the Palo Verde – Rudd 500-kV and Palm Valley – Rudd 230-kV lines or the double-contingency outage of Palo Verde – Rudd 500-kV and Jojoba – Kyrene 500-kV lines.





Projected In-service date: Q4 2021



Figure 19 - Installing Post Insulators at Liberty Substation



Figure 20 - Drilling Foundations at Liberty Substation

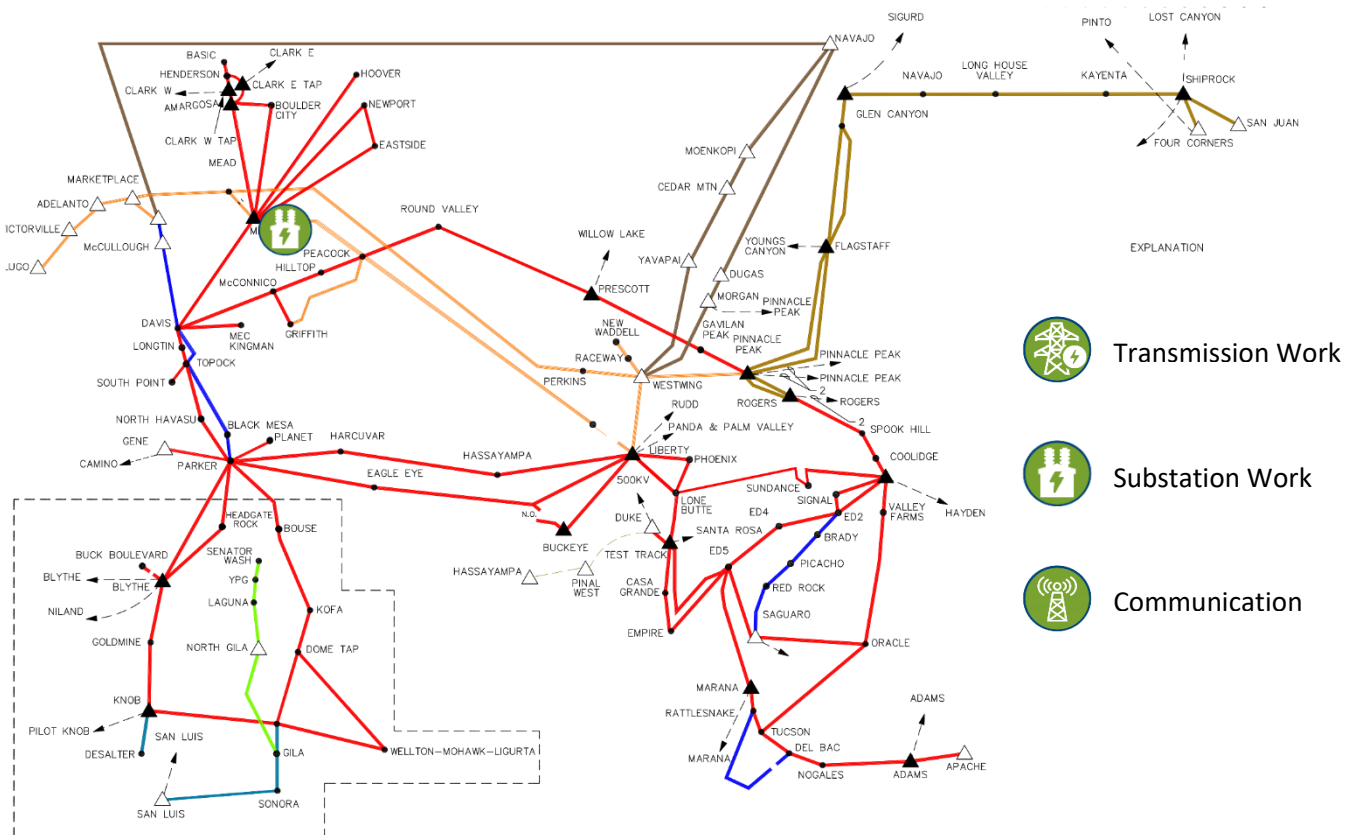




7.3 Mohave Wind Farm

Power System: Parker-Davis Project

Project Location =



Project Description

The Project Proponent is proposing to build a 425-MW wind generating facility north of Kingman, Arizona. The Proponent requested an interconnection to WAPA's Mead – Peacock 345-kV transmission line. The proposed point of interconnection is approximately twenty-five miles along the Mead-Peacock line southeast from Mead Substation.

This interconnection will require constructing a new 345-kV switching station consisting of a three-element ring bus with three power circuit breakers, a new control building, and equipment to provide redundant communication paths. The yard arrangement design will allow future expansion to a breaker-and-a-half arrangement with six elements.

The Proponent will build a single-circuit 345-kV tie line to their step-up substation, expected to be located within a few spans of the new switching station.

Equipment upgrades and replacement will be required at Mead substation. The existing 345/230-kV, 600-MVA transformer (KU2A) will be replaced by a matching device and a second transformer with the same characteristics will be added in parallel. New disconnecting switches, foundations and bus work, and protection will be installed for these transformers. Existing 345-kV equipment including one circuit breaker, one motor-operated interrupting switch and several disconnecting switches will be replaced.

Projected In-service date: Q4 2021

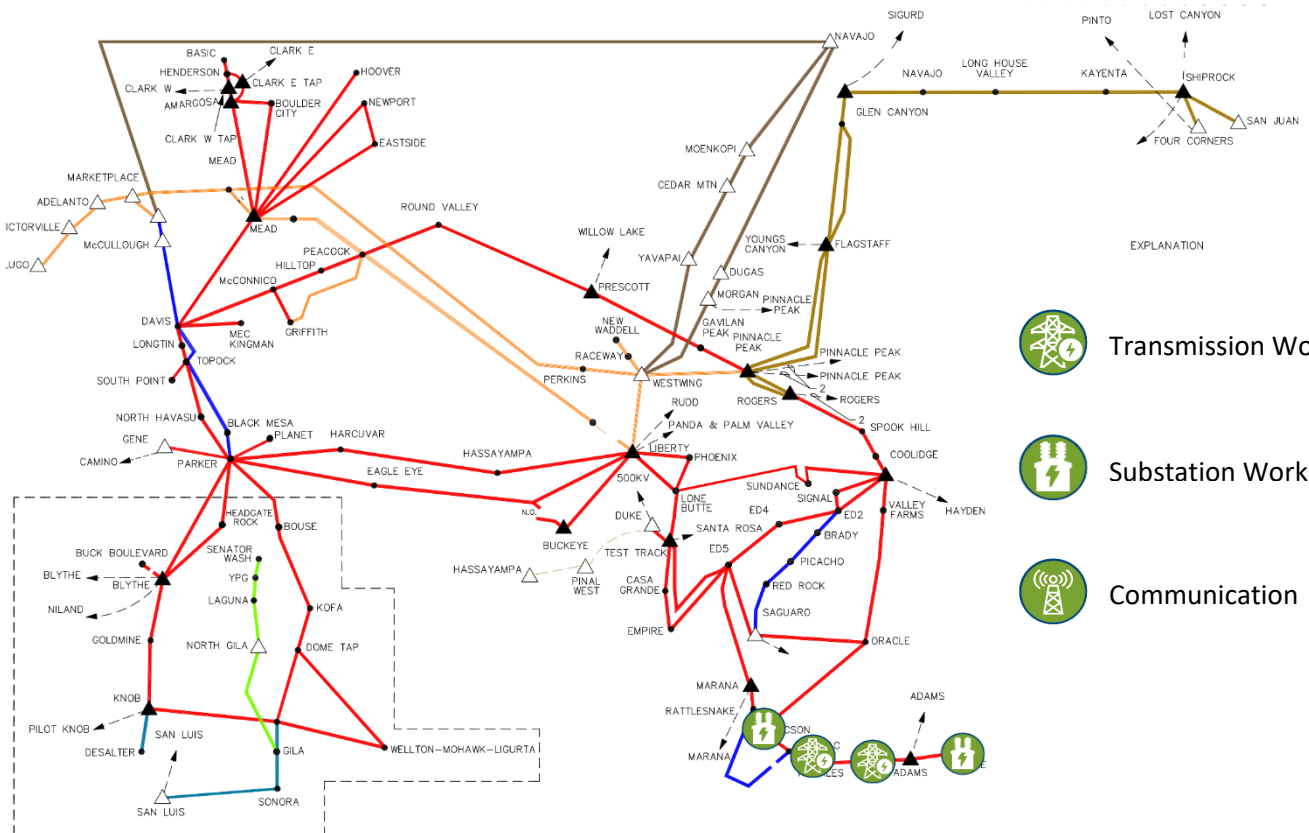




7.4 Southline

Power System: Parker-Davis Project

Project Location =





Technical Sketch – Interim Phase A

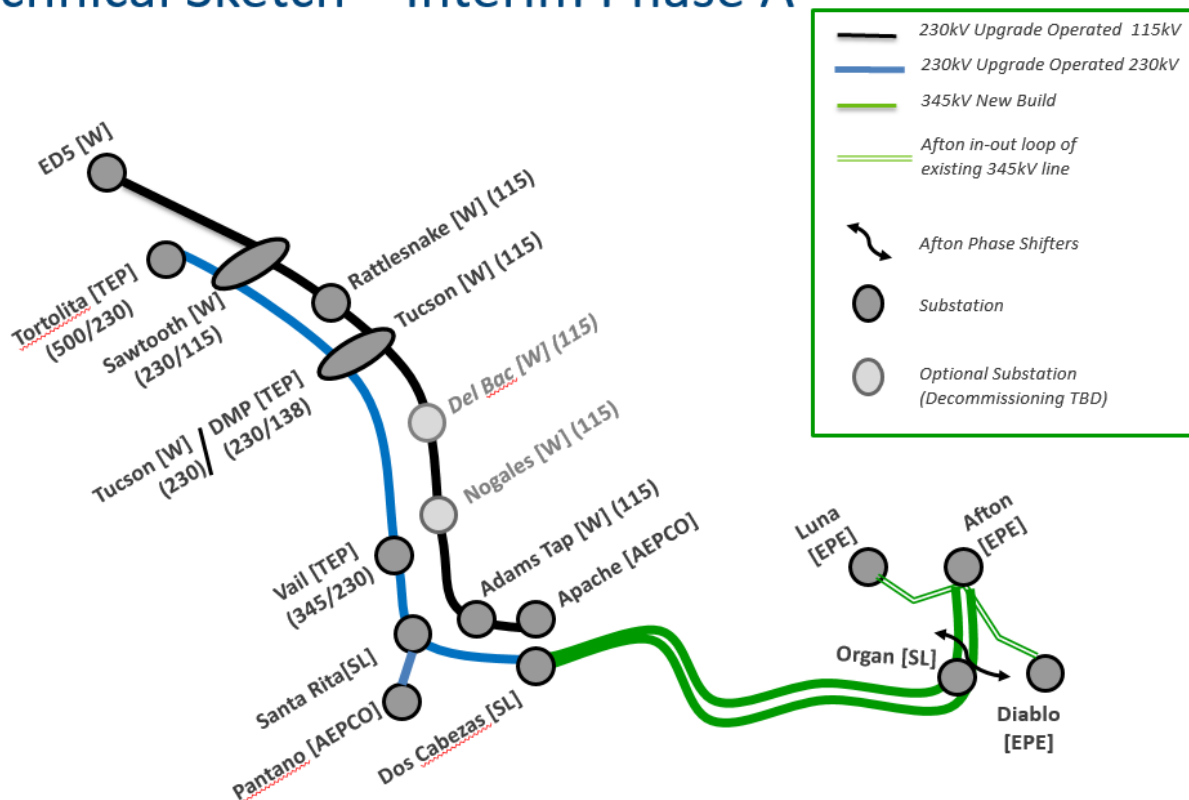


Figure 21 - Southline Technical Line Diagram

Project Updates

WAPA continues to provide support for the Southline Project. Southline is funding the work through a pre-construction agreement to isolate WAPA customers from the costs of the development of the Project.

WAPA and Southline are working under the following agreements:

- Pre-construction Agreement (Amended Dec 2018); funding mechanism to develop project to construction (\$6.2MM CY2019)
- Participation Agreement (January 2018); overall master agreement that ties all project related agreements together. Provides background, project framing, governance & committees.

The current level of commercial off-take interest of Southline's share of project capacity supports a partial build of the project, referred to as "Phase A". Pursuing "Phase B" is contingent upon Southline sufficiently advancing committed commercial interest after which the remaining project elements would be built as "Phase B".





Project Updates

- Tailoring scope, schedule, and approach to current commercial support
- Development of construction phases (“A” and “B”)
- Considerable contract negotiations
- Supplemental Environmental Impact Assessment – ED-5 Extension
- Coordinating with interconnected utilities technical configurations, operational assumptions, and joint access as necessary
- Transmission lin design – Apache substation to Nogales substation
- Land acquisition surveys, ROW, descriptions prior to formal acquisition

Contract Negotiation Status

Since execution of the Participation Agreement in January 2018, WAPA and Southline have been negotiating the following Key Agreements:

- Amended and Restated Participation Agreement – Addressing Phase A / Phase B delta.
- Construction Agreement – Roles, responsibilities, and expectations of constructing the project.
- Ownership Agreement – Delineation of which entities will hold title to which assets, equipment, structures and hold rights to specified amounts of capacity or capacity rights.
- Operations, Maintenance, and Replacements Agreement – Listing of all equipment associated to the project and which entity owns, operates, maintains, replaces, and has financial responsibility of the equipment.
- Lease Agreement – WAPA’s lease of land and/or facilities as needed.
- Communications and Security Agreement – Communication sharing arrangements between WAPA, Southline, and any sub-leases to include data security and compliance.
- Targeting final drafts ready for execution in the 2nd quarter 2019

Project Milestones

PROJECT MILESTONE	STATUS	DATE
Finalize Scope per Phase	Projected	Q2 2019
Executable contract drafts	Projected	Q2 2019
Start Construction	Projected	Q3-Q4 2019
Initial Transfer Capabilities	Projected	Q4 2021
Complete Phase 'A'	Projected	Q3 2023
Complete Phase 'B'	Projected	TBD

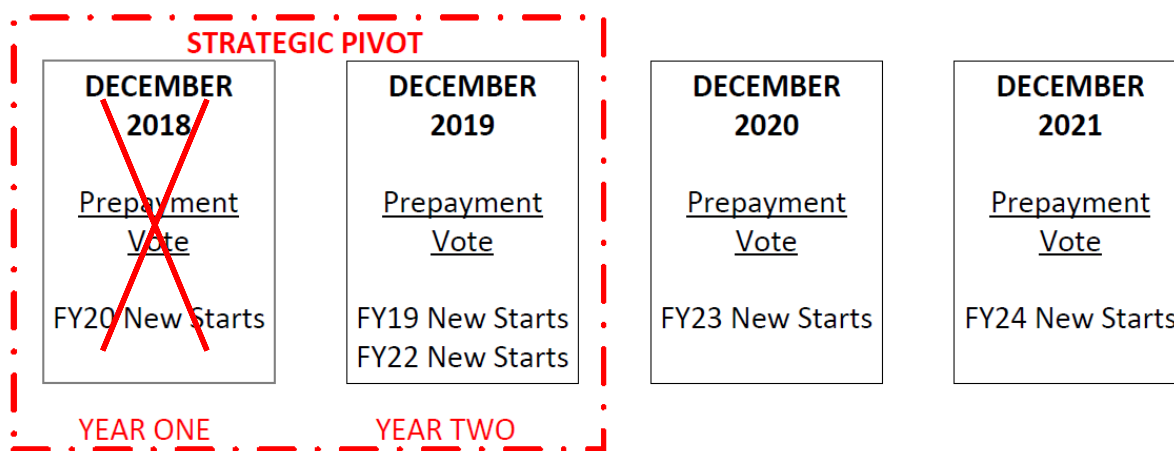




8. PIVOT STRATEGY 2019

8.1 What Is The 10-Year Plan Pivot?

The pivot is a strategic one-time shift in the 10-Year Plan process that requires simultaneous approval of multiple upcoming capital improvement projects. The pivot will span two 10-Year Plan cycles (two calendar years) and incorporate simultaneous prepayment funding approvals across fiscal year 2019 - 2022. A successful pivot will conclude in December 2019 at the Prepayment Vote Meeting. Upon Completion, the 10-Year Plan will be in alignment with the Government's Budget Formulation Process such that prepayment funding will be approved two years in advance of the start of new projects.



Pivot strategy - Prepayment Vote Schedule Four Year Look Ahead

8.2 Why Do We Need to Pivot?

The Federal Government Budget Formulation process begins two fiscal years prior to the execution year (current year). Historically, conducting the prepayment funding vote in the same year as the proposed construction start creates inconsistencies and unpredictability in the execution of WAPA's annual budget, which is formulated two years prior. The result is last minute modifications to resource allocations in order to compensate for budgetary swings. Historically the two year grace period between budget formulation and prepayment funding approval was prone to changes and fluctuation due to competing priorities and uncertainty of approved prepayment funding. By aligning the customer prepayment vote with the budget formulation process, WAPA can improve accuracy, consistency, and predictability in its budget formulation and execution. Aligning capital planning with budget formulation is imperative to the success of the 10-Year Plan.

8.3 Customer Benefits

As a result of a successful pivot, the customers will gain additional input into Analysis of Alternatives (AOA) study prioritization, planning, and results. Previously the AOAs were being performed concurrent with budget formulation processes, such that opportunities for customer input/engagement were limited. The strategic plan to pivot will provide customers with capital planning information in advance of budget formulation, therefore allowing sufficient time for WAPA to develop diverse, viable, and economical investment alternatives for customer consideration.





8.4 AOA Study Status: 2023 New Construction Starts

Due to strategic pivot strategy to align the 10-Year Plan with the budget formulation process, there are currently no new AOA studies being proposed for 2023. The AOA studies applicable to 2023 new construction starts were completed and shared with Parker-Davis and Intertie customers in the spring of 2018. In December of 2018, the customers voted to fully fund the Bouse (BSE)-Kofa (KOF) 161-kV transmission line rebuild project. The Bouse-Kofa project is being performed in two distinct construction phases with the first phase projected to complete in 2023 and the second phase in 2024. Refer to the Bouse-Kofa 161-kV Rebuild Project in Section 3 for additional project details.



9. 10-YEAR PLAN LOOK AHEAD



DSW 10-Year Capital Plan Annual Program Milestones Parker-Davis & Intertie Project Customers

YELLOW – Quarterly Customer Meetings
RRADs – Retirements, Replacements, Additions, & Deletions
MDCC- Maintenance, Design, Construction, Committee
AOA – Analysis of Alternatives Study
WIP – Work in progress

YEAR: 2019 REVISED: 2019.03.11 Budget Formulation: FY22 AOA Study Formulation: 2023

CUSTOMER ENGAGEMENTS

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
			Q1 CUSTOMER MEETING (ACTIVE PROJECTS)	OPTIONAL CUSTOMER MEETING	Q2 CUSTOMER MEETING (Draft Plan)	OPTIONAL CUSTOMER MEETING			Q3 CUSTOMER MEETING (Formal Plan)	OPTIONAL CUSTOMER MEETING	Q4 CUSTOMER MEETING (Prepayment Vote)
			FOCUS ON <ul style="list-style-type: none"> Active Construction & WFO Customer Feedback on: <ul style="list-style-type: none"> Provide feedback on 2023 priorities & preliminary AOA Alternatives Provide WAPA written comments within 30 days 	FOCUS ON <ul style="list-style-type: none"> Follow-up meeting at Customer's Request Any additional discussion on preliminary AOA Study Alternatives or project priorities 	FOCUS ON <ul style="list-style-type: none"> Draft 10-Year Plan presented Estimated Rate Impacts presented AOA Study WIP materials presented Customer Feedback on: <ul style="list-style-type: none"> AOA study WIP status update Approval of viable study alternatives Provide WAPA written comments within 30 days 	FOCUS ON <ul style="list-style-type: none"> Follow-up meeting at Customer's Request Any additional discussion on AOA Alternatives 			FOCUS ON <ul style="list-style-type: none"> Formal 10-Year Plan presented Estimated Rate Impacts presented Completed AOA studies Customer Feedback on: <ul style="list-style-type: none"> Preferred Alternative Selection Provide WAPA written comments within 30 days 	FOCUS ON <ul style="list-style-type: none"> Follow-up meeting at Customer's Request Any additional discussion on AOA Alternatives 	FOCUS ON <ul style="list-style-type: none"> Prepayment funding request (vote) Report on allocation of Appropriations by WAPA MDCC Provide "sneak peak" of proposed projects for 2024 (WAPA's project priority results) Customer Feedback on: <ul style="list-style-type: none"> Prepayment Vote 2024 preliminary prioritization Provide WAPA written comments within 30 days